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DEEP GULLY CREEK INTERIM REPORT

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COMSTAFF PROPRIETARY LIMITED
DEEP GULLY CREEK INTERIM REPORT

JUNE 1984

1. SUMMARY

The first phase of follow-up exploration at Deep Gully Creek is complete. The investigations reveal a favourable geological environment for metasomatic replacement tin mineralisation. The Bischoff series dolomites were intersected in drillholes and are exposed in Deep Gully Creek. Tin mineralised and topazised quartz porphyry dykes occur in the area indicating the existence of a mineralising conduit system.

The majority of stream sediment and soil geochemical tin anomalies result from the remobilisation of cassiterite from Tertiary, interbasaltic, lacustrine sediments. This cassiterite is locally derived, of metasomatic origin and sometimes occurs with fragments of silicified carbonate.

Ethol Creek is an area of known, in situ mineralisation. Altered dolomitic? sediments and mineralised quartz porphyry can be related to residual Sn/As/Pb/Zn soil anomalies and to DIGHEM anomaly 2210A. Drill testing of both localities is proposed.

The body of dolomite extending beneath the Tertiary basalt to the northeast from its exposure in Deep Gully Creek has not been exhaustively tested. The local nature and abundance of the cassiterite in this area must not be overlooked and a ground EM survey is recommended to locate any metasomatic sulphide mineralisation.

2. INTRODUCTION

Deep Gully Creek prospect lies within Area 1 of Exploration Licence 5/63, approximately four kilometres northeast of Mt Bischoff (TAS/2/1897). Geomorphologically, the prospect occurs near the southwestern edge of an extensive Tertiary basalt plateau. The Basalt cap has been heavily dissected near Deep Gully Creek, resulting in deep gorges which are mantled by temperate rain forest.

2.

Access to the prospect is by 4WD track from the Murchison Highway, about three kilometres away, and which is serviceable under most conditions.

This report describes the exploration activities of Comstaff Pty Ltd from January 1983, with the establishment of the Deep Gully Creek Grid, until the post-drilling phase of June 1984. Some reference to and reinterpretation of earlier work is also made.

3. PREVIOUS WORK

Deep Gully Creek was first recommended for follow up in 1973 (Herrmann 1973) as the result of a stream sediment survey conducted during the 1972/73 summer season. To quote from Herrmann:

"The Sn anomalies in Deep Gully Creek are of particular interest since this stream drains a large area about two miles NE of Mt Bischoff and the Sn values may reflect additional Sn mineralisation in the area".

and: "As an initial follow up procedure close spaced sampling of heavy concentrates is suggested (at say 1000' intervals along streams) of Deep Gully Creek and all its tributaries".

During the 1981/82 summer season, heavy concentrate samples were collected at 200m intervals along Deep Gully Creek, Belmont Creek and Robinson's Rivulet (Jones, 1982). These streams were geologically mapped, as were Wandle Road, Belmont Road, River Road and Tree Road.

A pronounced heavy concentrate tin anomaly was obtained in Deep Gully Creek near the contact between the Cambrian Crimson Creek formation and the Upper Proterozoic Bischoff Series. Quartz porphyries were noted in the area.

In July 1982 a grid was proposed to follow-up the anomalous tin results, to overlay the Cambrian-Precambrian contact zone and to investigate the quartz porphyries mapped in the area.

In March 1982 Geoex carried out an airborne magnetic survey over the Deep Gully Creek area (Trussell 1982). Several magnetic anomalies worthy of investigation were obtained and the proposed grid at Deep Gully was altered to cover them.

3.

4. GEOLOGY

4.1 Regional Geology

Deep Gully Creek prospect lies within the Dundas trough of Western Tasmania. It occurs near the contact between the Upper Proterozoic miogeosynclinal Bischoff Series and the Lower Cambrian Crimson Creek Formation (Waratah River Sequence) which contains abundant basic volcanics and volcanoclastic sediments (eg the Deep Creek Volcanics at Cleveland).

The Bischoff Series is a structural inlier produced by the erosion of the crest of an east-north-east trending anticlinorium. Intruding the apex of the anticlinorium at Mt Bischoff, are topazised porphyry dykes related to the cassiterite-sulphide replacement mineralisation at that locality. The dykes are Devonian in age and are temporally and spatially related to the Meredith granite.

Tertiary plateau basalts obscure basement outcrop to the north and east of Deep Gully Creek prospect.

4.2 Detailed Geology

This section describes the detailed geology of the Deep Gully Creek grid (TAS/2/4013).

a) Stratigraphy

The stratigraphic succession at Deep Gully Creek Grid can be subdivided into four broad categories. The oldest rocks in the grid area are the Upper Proterozoic Bischoff Series. This series consists of dolomites, quartzites, siltstones and semi-turbiditic mudstones. The dolomites are prominent near the top of the stratigraphic succession as exposed in Deep Gully Creek although some carbonates may occur lower down.

Cambrian rocks belonging to the Waratah River Sequence (a correlate of the Crimson Creek Formation) overlie the Bischoff Series. The contact is not exposed but a fault is inferred. The rock types are mudstones, cherty mudstones, mafic tuffaceous sandstones and magnetic basalts.

Devonian quartz porphyry dykes intrude the Bischoff Series. A contact is observed in Deep Gully Creek at 7300m and the dyke can be traced on to adjacent grid lines. Quartz-porphyrines are inferred at several other locations by the occurrence of float or sub-outcrop i.e Ethol Creek, 5960N/4900E and Deep Gully Creek 5900m and 6420m.

The Tertiary sequence at Deep Gully Creek consists of basalts, interbasaltic and or sub basaltic lacustrine sands and silts and sub-basaltic coarse, polymict sedimentary breccias. The Tertiary sediments are not well exposed at surface but comprise thick units in the drillholes.

4.

b) Structure

Structural data are limited to creek exposures and rare outcrops on the grid. The drillholes, being vertical, are of little structural value in basement.

A NNE trending anticlinal structure can be postulated at Deep Gully Creek within the Bischoff Series. Whether this anticline is parasitic to the larger anticlinorium is not known.

The structural relationships of the Waratah River Sequence at Deep Gully Creek are not clear. From the information available, the beds strike ENE and dip moderately to the NNW and SSE. An angular, probably faulted contact with the Bischoff Series is inferred.

The Tertiary beds are generally flat lying although in drillhole DGC 3 depositional dips up to 40 degrees are measured.

c) Mineralisation and Alteration**Quartz Porphyries/Dykes**

The Deep Gully Creek quartz porphyries are both altered and mineralised. Alteration varies from sericitisation and muscovitisation to silicification and topazisation.

The greisenised quartz porphyry outcropping in Deep Gully Creek at 6200m and 6300m and on adjacent grid lines carries no significant mineralisation in the body of the dyke, however cassiterite, pyrite and sphalerite occur in minor amounts near the margins.

Sub-outcropping quartz porphyry at 5960N/4900E is intensely altered to a degree where only rare quartz phenocrysts remain. The rock bears considerable pyrite and minor but noteworthy cassiterite.

The quartz porphyry float from Ethol Creek and Deep Gully Creek is strongly silicified and topazised and carries considerable cassiterite (up to 0.3% Sn) in pseudomorphed phenocrysts.

Country Rocks

The best mineralised country rocks occur as float in Ethol Creek. A specimen assaying 1.49% Sn is described as an altered breccia consisting of clasts of topazised/weakly cassiterite-stained pelite in a matrix of quartz with disseminated clots, films, rings of topaz and disseminated cassiterite. Also from Ethol Creek is an in situ, very incipiently mineralised siltstone. The microscopic, cloudy cassiterite particles occur in rare quartz-mica veinlets.

5.

The Dolomites are commonly silicified and rarely pyritic. The silica and pyrite is considered to be broadly hydrothermal. Silicified dolomite outcrops in Deep Gully Creek, occurs as float in Ethol Creek and was intersected in drillholes DGC 1, 2, 3 and 5.

Fuchsitic? altered and weakly mineralised (possibly dolomitic) sediments occur in Deep Gully Creek at 7650m and may be related to the porphyry dyking.

An altered and pyritic chromite bearing tuff occurs at 6080N/1700E. It lies within the Bischoff series and its origin is unknown.

Mineralisation or alteration of the Cambrian rocks is very rare. Minor pyrite and chalcopyrite occur with carbonate veining in fine grained porphyritic basalt on line 6200N. Clay sericite alteration and minor quartz veining of mafic volcanic sandstones occurs in Robinsons Rivulet at 2260m.

Alluvial cassiterite occurs in Tertiary interbasaltic lacustrine sands and silts. These Sn bearing sediments are observed in drillholes DGC 1, 3 and 4 and are exposed in a trench above the collar of DGC 2. In DGC 4, 47-49m the cassiterite is described as splinters, rough fragments and euhedral crystals showing little abrasion. It is typical of the cassiterite occurring in metasomatic deposits such as Rension and Cleveland. The provenance of the cassiterite must have been reasonably nearby, but much depends on the dynamics of the stream and other unknown factors.

Syngenetic pyrite is ubiquitous within the Tertiary sediments.

5. GEOPHYSICS

5.1 DIGHEM

In April 1983 DIGHEM carried out an airborne EM survey in the Arthur River area (Trussell, 1983; DIGHEM 1983). Only one anomaly within the Deep Gully Creek grid, 2210A, was considered on purely geophysical grounds to be worthy of follow up. No ground EM work has yet been done on this anomaly and although it has a favourable geological address, it may lie partially in EL 33/79 (BHP).

Several other DIGHEM anomalies near to, or within DGC grid are of interest. The anomalies are not considered by Trussell as high priority targets when based on geophysical considerations alone. However, when geological and geochemical data are taken into account, the anomalies become significant targets.

6.

The most attractive DIGHEM anomaly defined in this manner (2300B) lies within EL 13/79 (Metals Exploration) and is "on-strike" with the Bischoff Series carbonate units. Also interesting is 2250xB, which may be represent a strike continuation of 2210A and nearby known mineralisation (TAS/2/4012).

5.2 Ground Magnetics

A ground magnetic survey was carried out over the Deep Gully Creek grid. The magnetic picture is very complex and it is often difficult to correlate magnetic anomalies from line to line.

The DGC grid can be subdivided into five broad magnetic provinces (TAS/2/4004).

- A: The western third of the grid is characterised by strong positive anomalies which are thought to be caused by magnetic Cambrian basalt.
- B: A very strong, roughly oval shaped negative anomaly with narrow flanking highs is centred about the end of Deep Spur Road. This anomaly was the target of drillhole DGC 2 which unfortunately failed to explain it. The amplitude of the anomaly suggests a source magnetic susceptibility greater than the Cambrian basalts (>5000 SIU) and a strong, reversely magnetised remnant component. Possible sources are an ultramafic body, massive pyrrhotite, magnetite skarn or a Tertiary basalt feeder zone. The anomaly remains an intriguing enigma.
- C: A narrow, linear anomaly roughly coincident with the dolomite units and anomalous tin geochemistry in the southern central portion of the grid which falls almost entirely within EL 13/79. It may be caused by mineralisation within the dolomites.
- D: An eastern anomaly of irregular character and strongest on lines 6200N and 6320N. This anomaly may be related to mineralisation as it overlays DIGHEM response 2210A and is along strike from mineralised quartz-porphyry and anomalous Pb, Sn, As residual soil geochemistry.
- E: The north eastern area of the grid is dominated by spikey magnetic profiles which can be attributed to the Tertiary basalts. It is very difficult to pick any basement anomalies in this area.
- F: The south eastern section of the grid is dominantly flat, with occassional spikey, near surface anomalies. This area is mainly Bischoff series sediments and occassional porphyry dykes.

7.

To aid the interpretation of the grid magnetic data, a magnetometer survey along Deep Gully Creek was made to permit direct correlation of responses with the bedrock geology. The following features are noteworthy:

- i) The Cambrian basalts give rise to strong, positive magnetic anomalies.
- ii) The magnetics do not clearly indicate the Precambrian - Cambrian contact in Deep Gully Creek.
- iii) The Cambrian rocks are magnetically quiet within about 300 metres of the interpreted position of the Precambrian - Cambrian contact.
- iv) There is a correlation between the occurrence of quartz porphyry float and distinct magnetic responses. This suggests that the porphyries may give rise to magnetic anomalies and that the porphyry material does not travel far in the fluvial environment.

5.3 Aeromagnetics

Two sets of recent, detailed aeromagnetics have been flown at Deep Gully Creek; by Geox in 1982 and by DIGHEM in 1983.

DGC grid covers anomaly 1 and a portion of anomaly 11 outlined by Trussell from the Geox data. It is clear from the ground magnetics that anomalies 1 and 11 correspond to magnetic provinces A and B as defined in Section 5.2 of this report and are therefore mainly attributable to magnetic Cambrian basalt.

A discrepancy in the DIGHEM flight path recovery was discovered by comparing the aeromagnetics with the ground magnetics. Once the appropriate corrections are made, EM anomaly 2210A lies wholly within Comstaff ground and becomes conformable with the geological strike direction (TAS/2/4012).

5.4 Down-hole SIROTEM

SIROTEM logging was conducted down drillholes DGC 2, 3 and 4. Holes 1, 1B and 5 were inaccessible for logging. Four loops were surveyed at each location and were configured as shown in TAS/2/4003.

No conductors were found.

8.

6. GEOCHEMISTRY

6.1 Soil

Soil auger samples of the "C" horizon were collected on all grid lines using a 20m sample interval. Break of slope soil samples were collected from the banks of Ethol Creek. The -80 mesh fraction of each sample was assayed for Sn, Cu, Pb, Zn, Ag, As and Ni.

Copper

The major copper anomalies fall within the western third of the grid and correlate with the Cambrian basalts and sediments. It is worth noting that the copper anomalies encroach within the Tertiary basalt indicating thin basalt cover or basalt scree.

Lead

Lead is not highly responsive but several anomalies of good contrast occur. Linear and spot anomalies occur over Cambrian rock types and are considered formational and of little economic interest.

A small Pb anomaly (which includes the peak values of 260 ppm) intersects the upper reaches of Ethol Creek. The anomaly plots near the edge but within the Tertiary basalt boundary. The basalt invariably carries low background lead values which suggests that the anomaly might be residual and the basalt cover thin.

Another, possibly important Pb anomaly occurs at the eastern ends of lines 5840N and 5960N. The anomaly is associated with fuchsitic? altered, dolomitic? sediments.

Zinc

Zinc is not a particularly useful element in the soils at Deep Gully Creek. Quite high levels of Zn are recorded in the Tertiary, Cambrian and Precambrian areas of the grid. Several linear anomalies occur over the Cambrian rocks and roughly coincide with Cu anomalies. Occasional zinc anomalies occur well within the Tertiary basalt field but do not indicate thinning. A small anomaly occurs at the eastern end of L5840N and appears to be associated with altered sediments.

Silver

No Ag anomalies occur.

Arsenic

Background As levels are low. Scattered, single point anomalies occur over the western half of the grid and are not considered significant.

9.

Three anomalies occurring in the southeastern corner of the grid are probably due to porphyry dykes. Especially interesting is the anomaly on line 5960N which is coincident in part with an occurrence of Sn mineralised quartz porphyry.

Nickel

The Tertiary basalts have a high nickel content and this is reflected in the soil geochemistry. The 80 ppm Ni contour was initially used to define the edge of the basalt sheet. These contacts were checked by mapping and only minor changes were required.

Tin (TAS/2/4009)

The majority of anomalous Sn values occur within the area covered by Tertiary basalt. The anomalies are strictly controlled by level and no anomalies occur above the 550m topographic contour. It is likely that most soil tin anomalies are stratigraphically controlled and due to a cassiterite bearing interbasaltic alluvium.

Possible residual Sn anomalies (not related to Tertiary alluvium) occur in the southeast corner of the grid. Of particular interest are Sn values on lines 5960N and 5840N which coincide with distinct Pb, As and Zn anomalies.

6.2 Stream Sediment

Highly anomalous stream sediment samples were collected from Ethol Creek although the adjacent soil samples were not, or were only weakly anomalous in tin. This discovery prompted a detailed stream sediment survey and samples were collected from drainages wherever they crossed the grid lines.

The results (TAS/2/4010) show a broadly similar pattern to the soil Sn geochemistry and the same stratigraphic controls apply. All anomalous values occur below the 550m topographic contour. Two source areas are separated by a basement quartzite ridge.

Only two tributaries of Robinson's Rivulet are weakly tin bearing thus accounting for the relatively weak heavy concentrate Sn anomaly in this stream.

The peak stream sediment value of 1650 ppm Sn was collected from a small swampy creek at 6200N/1410E. A section of auger holes spaced at two metre intervals realised a peak value of 3390 ppm over 0.6m. The results are presented in Figure 1 (TAS/2/4011). The cassiterite occurs along with small amounts of rounded and angular quartz and partially silicified carbonate in a matrix of very fine, dark grey-green clay.

10.

6.3 Rock

One hundred and twenty nine rock chip samples were assayed for Cu, Pb, Zn, Ag, Ni, As, Sn and W. The results are plotted on plan TAS/2/3887 (rock chip results).

Apart from the Tertiary sands, only two locations of outcropping or sub-outcropping Sn mineralisation occur. In Ethol Creek incipiently mineralised siltstones are found in outcrop and at 5960N/4900E, intensely altered and mineralised porphyry is exposed in the roots of a fallen tree.

Table 1 lists typical rock assays for the area.

SELECTED DGC ROCK ASSAYS (1)

TABLE 1

Name	Topazised Breccia	Proto-quartzite	Labile Siltst	Quartz Porphyry	Tertiary Basalt
Number	2903Z	2910Z	2922Z	2928Z	2939Z
Type	float	float	outcrop	float	float
Location	Ethol Ck	4260E 5600N	Ethol Ck	Ethol Ck	4065E 7280N
Sn	1.49%	110	170	3050	x
Cu	10	50	115	35	55
Pb	610	10	10	10	x
Zn	20	50	210	15	145
Ag	1.0	x	x	1.5	x
As	5	19	x	10	-
Ni	15	20	165	15	265
Mo	x	1.0	x	1.0	-
W	75	x	x	50	x

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SELECTED DGC ROCK ASSAYS (2)

TABLE 1 (cont)

Name	Tertiary Sand	Altered Tuff	Cambrian Tuff	Silicified Dolomite	Porphyry Contact
Number	2968Z	2979Z	2996Z	3505Z	3528Z
Type	O/C	O/C	O/C	Sub O/C	O/C
Location	1000E 6080N	1705E 6080N	DGC 5420m	DGC 6150m	DGC 7300m
Sn	174	x	x	x	19
Cu	10	10	240	15	80
Pb	15	x	15	20	1400
Zn	35	295	135	50	1.57%
Ag	x	x	x	x	2.0
As	1	4	1	1	37
Ni	20	540	55	35	80
Mo	-	-	-	-	-
W	x	x	x	x	x

SELECTED DGC ROCK ASSAYS (3)

TABLE 1 (cont)

Name	Altered Sediments	Altered Porphyry	Detection Limits	Method
Number	3534Z	3537Z		
Type	O/C	Sub O/C		
Location	DGC 7650m	4900E 5960N		
Sn	x	173	3	402
Cu	5	35	5	101
Pb	5	50	5	101
Zn	75	195	5	101
Ag	x	0.5	0.5	101
As	57	78	1	114
Ni	420	300	5	101
Mo	-	-	0.5	121
W	x	x	10	401

Laboratory = ANALABS Coeee

- = Not Determined

x = Below Level of Detection

7. DRILLING

7.1 General

A drilling programme was conducted at Deep Gully Creek during the first quarter of 1984. The holes were designed to test the possibility of a hardrock Sn source beneath the Tertiary basalt in the vicinity of Belmont Hill.

The programme was conducted by Overland Drilling Co of Devonport, Tasmania, using a Warman 500 dual capacity diamond/percussion drill. The rig is mounted on a 6x6 Bedford truck and is supported by a rod truck and compressor truck. Difficulties were sometimes encountered in moving between drillsites due to the greasy conditions, in which case a small bulldozer was employed to assist the trucks.

A total of 917.60 charged metres were in six holes. In addition, 147.50 metres were drilled at cost to the contractor due to a lost hole. A 42m water-bore was also drilled.

Detailed drilling production statistics are presented in Appendix 5 in tabular form.

7.2 Results

The detailed results of the drilling programme are presented in the drill logs (Appendix 1) and drill sections.

Geology

Thick Tertiary sequences and basement were encountered in all five holes (DGC 1 and DGC 1B will be considered as one hole). Four recorded Bischoff series dolomites as the basement lithotype and the fifth gave Cambrian sediments. A basement topographic irregularity occurs between the two formations (TAS/2/3906, 3913, 3927). A summary of the gross basement geology features are listed in Table 2.

TABLE 2 DEEP GULLY CREEK DRILLING: GEOLOGICAL SUMMARY

Hole No	Bottom of Basalt Depth	Basalt RL	Depth of Basement Depth	Basement RL	Type of Basement
DGC 1	81.1	507.1	147.7	440.5	Bischoff Dolomite
DGC 2	134.3	413.7	161.3	386.7	Bischoff Dolomite
DGC 3	110.0	481.5	149.4	442.1	Bischoff Dolomite
DGC 4	72.5	518.7	72.5	518.7	Cambrian Mudstone
DGC 5	99.0	503.1	169.0	433.1	Bischoff Dolomite

Geochemistry

For the purposes of analysis and interpretation the geochemical data set was subdivided into three formational groups; Tertiary, Cambrian and Precambrian.

From the Cu/Ni/Zn ternary plot of Fig 2 (TAS/2/4014) it can be seen that the Cambrian and Precambrian basement samples fall into two distinctly different fields. The Tertiary field bisects and overlaps the other two reflecting the bimodal provenance of the Tertiary chaos breccias.

Significant tin occurrences are restricted to Tertiary interbasaltic layers (see Table 3), the best being from DGC 4 which averages 65 ppm Sn over 25.5 metres (TAS/2/3908, 3915, 3922).

TABLE 3 DEEP GULLY CREEK DRILLING: TIN OCCURRENCES

Hole No	Top of Interval Depth	Interval RL	Thickness	Tin Value	Geological Association
DGC 1	50m	538.2m	2m	50 ppm	Tertiary
DGC 2	-	-	-	-	-
DGC 3	55m	536.5m	2m	25 ppm	Tertiary
	58.3m	533.2m	1.7m	10 ppm	Tertiary
	85m	506.5m	2m	23 ppm	Tertiary
	89m	502.5m	2m	9 ppm	Tertiary
DGC 4	47.0	544.2m	25.5m	65 ppm*	Tertiary
DGC 5	-	-	-	-	-

Geophysics

Magnetic susceptibility readings were taken on all drillcore and percussion samples. In general the percussion chips gave lower susceptibilities because of the fragmented nature of the sample. The magnetic susceptibility readings from DGC 2 do not explain the large negative magnetic anomaly constituting the target of the drillhole. A peak in susceptibility is observed at 125 metres and corresponds to a somewhat more magnetic Tertiary basalt.

The down-hole SIROTEM is described in section 5.4.

8. DISCUSSION AND INTERPRETATION OF RESULTS

8.1 General

The occurrence of tin in the modern environment at Deep Gully Creek Grid is predominantly due to the redistribution of cassiterite from Tertiary interbasaltic silty-sand layers.

The Tertiary cassiterite from drillhole DGC 4 is typical of metasomatic replacement mineralisation (as opposed to a granitic association) and its provenance is reasonably close to the sample site.

In situ mineralisation is exposed at two locations; in Ethol Creek and in the SE corner of the grid. In both places the mineralisation is related to topazised porphyry dykes.

Thick sequences of variably silicified dolomites were intersected in the drilling and are exposed in Deep Gully Creek. The dolomites are not Sn mineralised in any intersections or exposures. However the style of the cassiterite from the Tertiary is suggestive of carbonate replacement mineralisation and fragments of semi-silicified dolomite are found with cassiterite in auger holes at 6200N/1410E creek. Therefore it can be reasonably inferred that the Deep Gully Creek Dolomites are mineralised at a locality not a great distance from the drilling and surface sampling.

8.2 Factors Controlling the likely Occurrence of Mineralisation and its Discovery.

If the conclusion in 8.1, based on its preceding logic, is taken as a platform from which to consider the likely locus of tin mineralisation the following influences are pertinent to its discovery:-

15.

Stratigraphy - Basement

A significant primary Sn orebody is only likely to occur within the Deep Gully Creek Dolomite, therefore a structural understanding and the tracing of this unit is of primary importance.

Tertiary/Recent

The levels at which cassiterite occurs within the Tertiary and present day systems dictate that the source of tin must rise to an RL of 550m. The present equivocal interpretation of the Tertiary stratigraphy suggests a possible source may be on the southwestern side of Deep Gully Creek.

Feeder Systems

The porphyry dykes at Deep Gully Creek indicate that a mineralising feeder system is present. The structural environment controlling their emplacement, in proximity to potential host dolomite, must be understood.

Geophysics

It is likely that metasomatic Sn mineralisation will be sulphide (pyrrhotite) associated and conductive. In this context DIGHEM airborne EM anomalies occur within and near to the Deep Gully Creek grid. The precise location and significance of these anomalies is not known as they have not as yet been followed up on the ground.

Magnetic responses are a guide to the presence of pyrrhotite but the situation is complicated at DGC by the existence of magnetic basalts.

9. RECOMMENDATIONS FOR FURTHER WORK (TAS/2/4012)

9.1 General

The prime objective at this stage is to gain access to the "other side" of Deep Gully Creek and the recommendations of this report assume this position can be achieved through an agreement with Metals Exploration. It is also suggested that Comstaff tender for the portion of EL 33/79 which adjoins EL 5/63 Area 1, when and if it becomes vacant.

The geological, geochemical and geophysical environments of Deep Gully Creek are considered by the author to be very prospective for the discovery of a tin deposit with favourable tonnage-grade characteristics, akin to Renison Bell or Mt Bischoff. Continued investment in the area is strongly recommended.

16.

9.2 Short Term Recommendations

Two drillholes are recommended for execution during the third quarter of 1984. The holes will be semi-stratigraphic in nature but will also test areas of known, in situ mineralisation.

Detailed proposals for the holes will be presented separately but in general terms the proposals are:

- DGC 6: Test the occurrence of mineralised quartz porphyry at 5960N 4900E. This quartz porphyry is associated with a residual Sn/As/ Pb anomaly and is probably the strike extension of DIGHEM anomaly 2210A.
- DGC 7: Test beneath Ethol Creek, which is a known mineralised locality with in situ, incipiently Sn mineralised sediments. Common, mineralised quartz porphyry float assaying up to 0.3% Sn and topazised pelite float assaying 1.49% Sn occur.

It is hoped to gain mineralised intersections and valuable lithological and structural data from these two holes.

A ground EM survey of the existing grid is required. There are definite DIGHEM anomalies to follow-up and the survey may point towards the source of the Tertiary cassiterite.

The existing grid should be extended to cover DIGHEM anomaly 2250xB.

9.3 Medium Term Recommendations

Surface investigations should be conducted on the southwestern side of Deep Gully Creek. The following programme is needed:

- i) Extend the DGC grid 1.5km to the southwest with line lengths adequate to cover the anomalous portion of Deep Gully Creek, DIGHEM anomaly 2300B and the Bischoff Series dolomite.
- ii) Carry out geological mapping, soil geochemistry, detailed stream sediment geochemistry and ground magnetics over the grid.
- iii) Cover the entire new grid with ground electromagnetics. The appropriate method should be chosen when the time arrives.
- iv) Conduct drilling based on the results of above.

9.4 Recommendations for a Regional Approach

If tenure can be secured over ground to the northeast of Deep Gully Creek prospect, (ie the recently applied for Hellyer River area and the appropriate portion of EL 33/79) then the following work programme should be conducted:

- a) A detailed gravity survey based on an approximately one kilometre square grid between Deep Gully Creek and the House Top Granite. This survey should locate any small granite stocks or cupolas which may represent loci of tin mineralisation.
- B) Regional geochemical stream sediment surveys of deeply incised drainages within the basalt may detect tin shedding from the inter basalt layers or from windows.
- c) Deep penetrating EM (eg UTEM) surveys over the strike corridor of the Bischoff Dolomite is considered essential.
- d) Landsat image analysis may be useful in understanding the structural controls on mineralisation. Fundamental lineaments may be visible through the Tertiary cover.
- e) Widely spaced stratigraphic drillholes through the basalt and into basement will provide the necessary geological control for the regional programme.
- f) Re-interpretation of the aeromagnetics in the light of a) to e) may be useful in determining targets or in developing stratigraphic control.

[Handwritten signature]
 26/06/84
 JA LEVINGS
 26/06/84

10. REFERENCES

DIGHEM LTD; DIGHEM 111 Survey of the Arthur River Area, Tasmania for Comstaff Pty Ltd (1983).

HERMAN, W; Heazlewood and Arthur River Areas, Regional Exploration, 1972/1973 Summer Field Season; Comstaff Report.

JONES, C M; Interim Report of EL 5/63, Area 1, Arthur River, Comstaff Report 1982.

TRUSSELL, D B; 1982 Aeromagnetic Survey Interpretation of an Area NE of Waratah, AAA report (1982).

TRUSSELL, D B; Interpretation of Arthur River Area Dighem Survey; Report A12 AAA report (1983).

A P P E N D I X 1

Deep Gully Creek Drillogs

025

156026 DRILLHOLE LOG

Summary Sheet

PROJECT *Deep Gully Creek* AREA *Arthur River* DRILLHOLE TYPE *Perussion/Diamond*
 CO-ORDS *379253.4 E* *5415446.5 N* DECLIN *90°* AZIMUTH *Vertical Hole* RL *591.5m* DH No. *D6C 3*
 DATE COMMENCED *6/3/84* DATE COMPLETED *13/3/84* DRILLED BY *Overland* DRILL RIG *Warman 500*
 Non Coring to: *46.6m* HQ Core to: *153m* NQ Core to: *174.4* BQ Core to: *174.4* EOH *174.4*

SURVEY DATA

Instrument:

DEPTH	DECLINATION		AZIMUTH	DEPTH	DECLINATION		AZIMUTH
	Uncorr	Corr			Uncorr	Corr	

LOG SUMMARY

ROCK TYPE	MINERALIZATION		
	Style	Grade	Intersection width (Corr)
<i>Perussion</i>			
<i>0-46.6 Tertiary Basalt</i>	<i>46-46.3 Abundant Syngenetic Pyrite</i>		
<i>Diamond</i>			
<i>46.6-55.0 Tertiary Basalt: vesicular/amygdaloidal</i>			
<i>55.0-58.3 Sandy Silt.</i>	<i>55-57m Cassiterite</i>	<i>25 ppm Sn</i>	<i>2m</i>
<i>58.3-79.4 Tertiary Basalt / Basaltic Tuff</i>	<i>58.3-60m Cassiterite</i>	<i>10 ppm Sn</i>	<i>1.7m</i>
<i>79.4-90.0 Siks, Grits, Sedimentary breccias</i>	<i>85-87m Cassiterite</i>	<i>23 ppm Sn</i>	<i>2m</i>
	<i>89-91m Cassiterite</i>	<i>9 ppm Sn</i>	<i>2m</i>
<i>90.0-105.8 Altered Tertiary Basalt / Basaltic Tuff.</i>			
<i>105.8-110.0 Transition: Altered Basalt to Sedimentary clays and grits</i>			
<i>110.0-123.3 Muds, Grits and Sedimentary Breccia</i>			
<i>123.3-129.3 Silicified Dolomite bubble.</i>			
<i>129.3-142.9 Chaos Breccia; reduced.</i>	<i>minor pyrite</i>		
<i>142.8-149.4 Oxidised Breccia</i>			
<i>149.4-174.4 Dolomite: variably silicified</i>			

156027

DRILLHOLE LOG

Summary Sheet

PROJECT *Deep Gully Creek* AREA *Arthur River* DRILLHOLE TYPE *Perussion / Diamond*

CO-ORDS *379104.0 E* *41554.2 N* DECLIN *90°* AZIMUTH *Vertical Hole* RL *591.2m* DH No. *D6C 4*

DATE COMMENCED *14/3/84* DATE COMPLETED *19/3/84* DRILLED BY *Overland* DRILL RIG *Warwan 500*

Non Coring to: *72.5m* HQ Core to: NQ Core to: *127m* BQ Core to: EOH *127m*

SURVEY DATA

Instrument:

DEPTH	DECLINATION		AZIMUTH	DEPTH	DECLINATION		AZIMUTH
	Uncorr	Corr			Uncorr	Corr	

LOG SUMMARY

ROCK TYPE	MINERALIZATION		
	Style	Grade	Intersection width (Corr)
<i>0-21 No Sample.</i>			
<i>Perussion</i>			
<i>21-47 Tertiary Basalt; minor interbasaltic silt</i>	<i>41-43 common syngenetic pyrite</i>		
<i>47-57 Mud; Pyritised Mud, intercalated Tertiary Basalt</i>	<i>Common syngenetic pyrite</i>		
<i>57-61 Tertiary Basalt; amygdaloidal</i>			
<i>61-65 Carbonaceous Mud, pyritic; intercalated Tertiary Basalt.</i>	<i>Common syngenetic pyrite</i>	<i>65ppm average</i>	<i>25.5m</i>
<i>65-72.5 Altered Tertiary Basalt.</i>			
<i>72.5-97.6 Weathered Mudstone; green - cream - mauve, soft</i>	<i>elevated background Sn values - average 4ppm</i>		
<i>97.6-127.0 Mudstone, brown - grey, EOH well bedded.</i>			

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027

156028

DRILLHOLE LOG

Summary Sheet

PROJECT <i>Deep Gully Creek</i>	AREA <i>Arthur River</i>	DRILLHOLE TYPE <i>Hammer/Diamond</i>
CO-ORDS <i>E 379387.4 NS 415581.8</i>	DECLIN <i>90°</i>	AZIMUTH <i>Vertical Hole</i>
DATE COMMENCED <i>19/3/84</i>	DATE COMPLETED <i>23/3/84</i>	DRILLED BY <i>Overland</i>
Non Coring to: <i>76.4</i>	HQ Core to:	NQ Core to: <i>171.0</i>
		BQ Core to: <i>205.0</i> EOH <i>205.0</i>

SURVEY DATA			Instrument:			
DEPTH	DECLINATION		AZIMUTH	DEPTH	DECLINATION	
	Uncorr	Corr			Uncorr	Corr

LOG SUMMARY

ROCK TYPE	MINERALIZATION		
	Style	Grade	Intersection width (Corr)
<i>Perussion</i>			
<i>0-62 Tertiary Basalt.</i>			
<i>62-66 Grey/Brown Silt, Mud</i>	<i>Minor syngenetic pyrite</i>		
<i>66-77.4 Tertiary Basalt.</i>			
<i>Diamond</i>			
<i>77.4-99.0 Tertiary Basalt; Tuff and grit (82.3-85.3)</i>			
<i>99.0-108.7 Sand and Silt, carbonaceous</i>			
<i>108.7-131.0 Collapse Breccia, clay matrix, mudstone clasts dominant.</i>			
<i>131.0-^{gradational}158.0 Chaos Breccia, oxidized Polymict, dominantly mudstone clasts. Siliceous clasts after 136m</i>			
<i>158.0-169.0 Clayey Breccia, soft mauve mudstone clasts.</i>			
<i>169.0-205.0 Silicified Pisolitic Dolomite grading to moderately silicified Dolomite</i>			
<i>EOH.</i>			

028

156029

A P P E N D I X . 2

Deep Gully Creek Drilling Statistics

029

156030

APPENDIX 2

TABLE DEEP GULLY CREEK DRILLING STATISTICS

Hole No	AMG mE	Co-ords mN	DGC mE	Co-ords ² mN	Collar RL (m)	Final Depth (m)
DGC 1	379406	5415323	4092	6568	588.2	163.2
DGC 1B ¹	379426	5415334	4103	6588	590.1	182.5
DGC 2	378832	5415197	1001	6072	548.0	213.0
DGC 3	379253	5415447	3900	6554	591.5	174.4
DGC 4	379104	5415584	3693	6560	591.2	127.0
DGC 5	379387	5415582	3902	6733	602.1	205.0

1 Redrill.....147.5m at contractor's cost

2 Approximate

TABLE DEEP GULLY CREEK DRILLING STATISTICS (Cont)

Hole No	Azimuth	Declination ¹	Percussion Depth (m)	Recovery ² %	Date Started	Date Completed
DGC 1	N/A	90	81.1	72%	27/1/84	9/2/84 ³
DGC 1B	N/A	90	147.5 ⁴	29%	10/2/84	20/2/84
DGC 2	N/A	90	67.0	86%	21/2/84	3/3/84
DGC 3	N/A	90	46.6	52%	6/3/84	13/3/84
DGC 4	N/A	90	72.5	63%	14/3/84	19/3/84
DGC 5	N/A	90	76.4	48%	19/3/84	23/3/84
TOTALS				59% ⁵		

1 degrees from horizontal

2 diamond drilling only

3 hole abandoned

4 percussion/rotary

5 overall recovery for diamond drilling - weighted average

N/A not applicable, vertical hole

030

156031

TABLE DEEP GULLY CREEK DRILLING STATISTICS (Cont)

Hole No	Percussion ¹ Rate	Diamond ¹ Rate	Total Charged Metres	Additives \$	Cost per Metre ²
DGC 1	32	10.3	163.2	899.50	\$60.05
DGC 1B	N/A	8.8	35.0	636.33	\$163.41
DGC 2	22	11.2	213.0	1283.38	\$66.15
DGC 3	31	19.7	174.4	961.31	\$61.77
DGC 4	24	13.6	127.0	482.92	\$48.35
DGC 5	31	17.2	205.0	337.46	\$62.29
TOTALS	<u>28³</u>	<u>13.5³</u>	<u>917.6</u>	<u>4600.90</u>	<u>\$64.6⁴</u>

1 metres per production shift

2 overall price paid to contractor per metre drilled

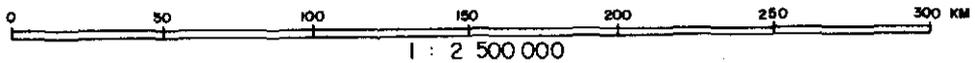
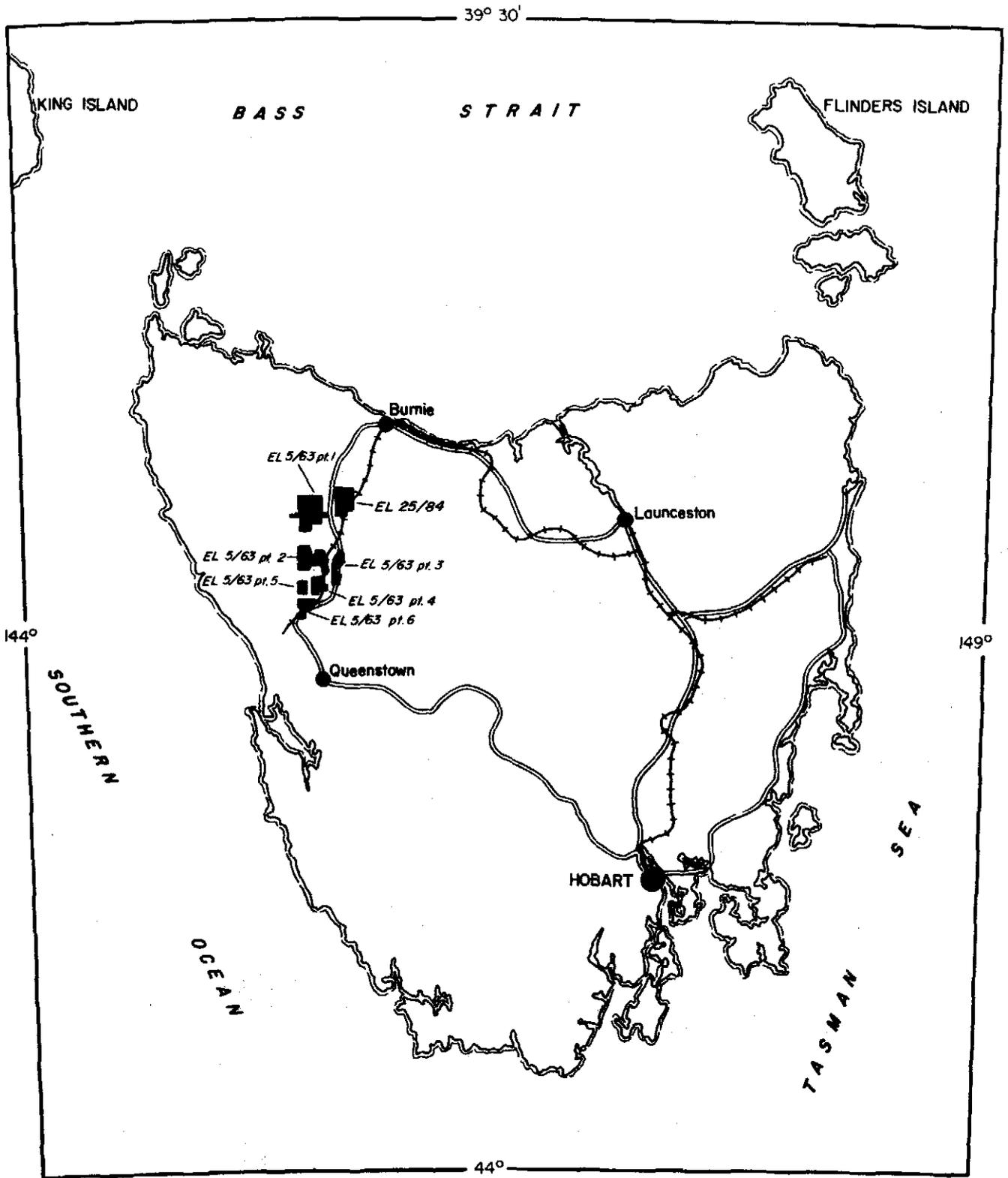
3 average

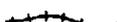
4 weighted average

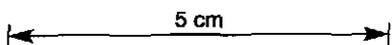
N/A = not applicable.

031

156032



-  Major roads
-  Major railways
-  Burnie
-  Comstaff lease areas



COMSTAFF PROPRIETARY LIMITED

LOCATION OF COMSTAFF LEASES
IN TASMANIA

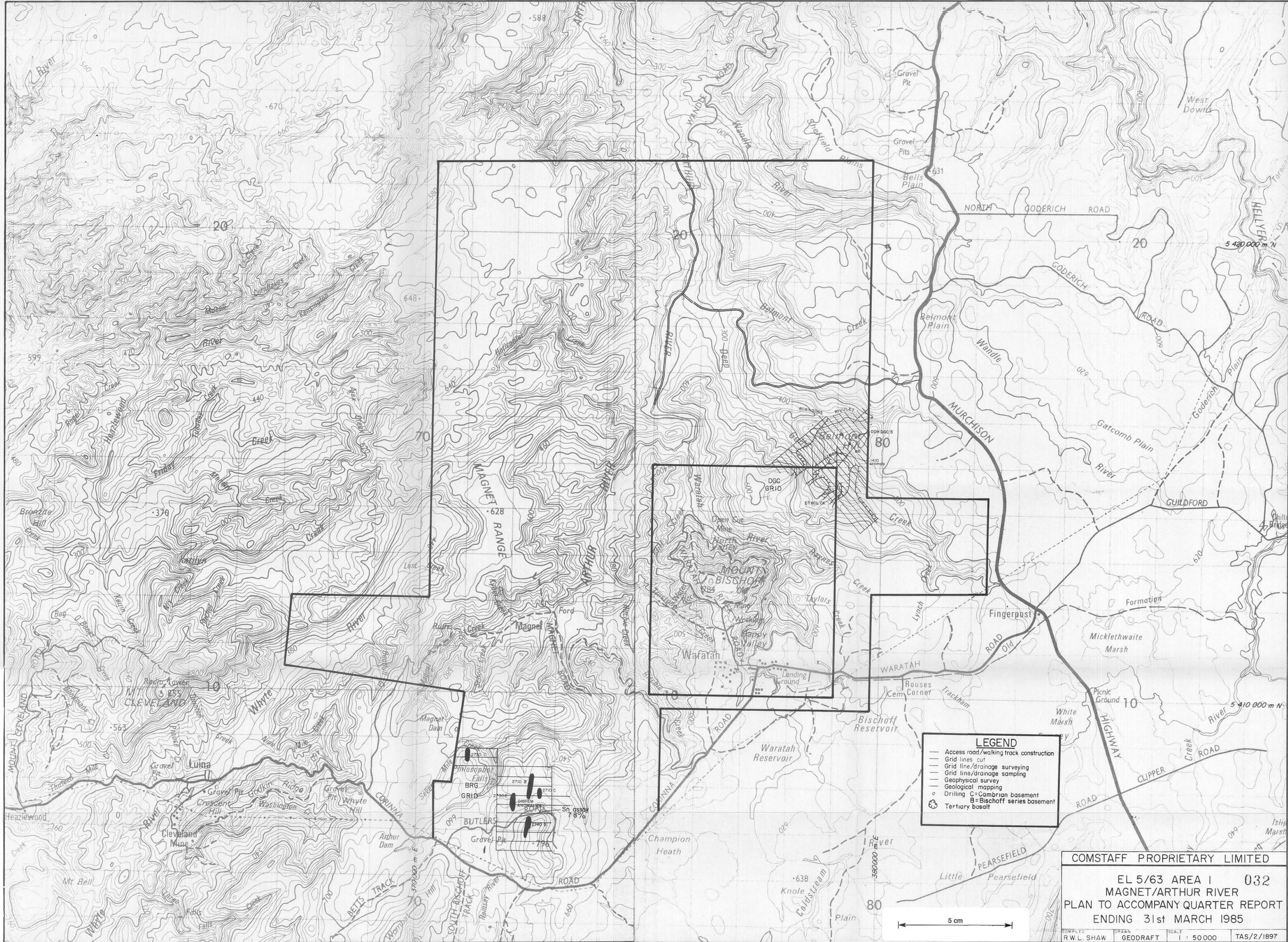
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DRAWN
GEODRAFT 7/78

COMPILED

SCALE
1 : 2 500 000

TAS/2/1586



COMSTAFF PROPRIETARY LIMITED

EL 5/63 AREA I 032
 MAGNET/ARTHUR RIVER
 PLAN TO ACCOMPANY QUARTER REPORT
 ENDING 31st MARCH 1985

COMPILED R.W.L. SHAW DRAWN GEODRAFT SCALE 1:50000 TAS/2/1897

85-7411

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591.2 m RL

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(SECTION)**

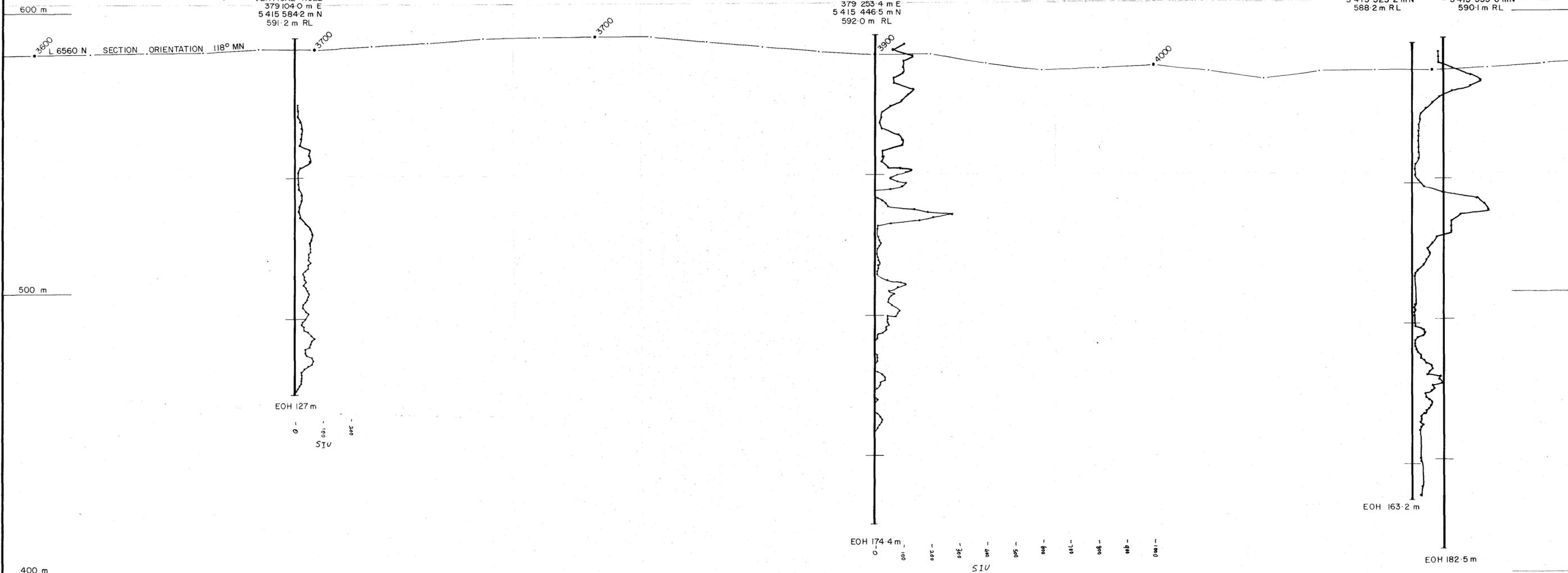
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592.0 m RL

**DDH DGC IA
(SECTION)**

VERTICAL HOLE
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588.2 m RL

**DDH DGC IB
(SECTION)**

VERTICAL HOLE
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5 415 333.6 m N
590.1 m RL

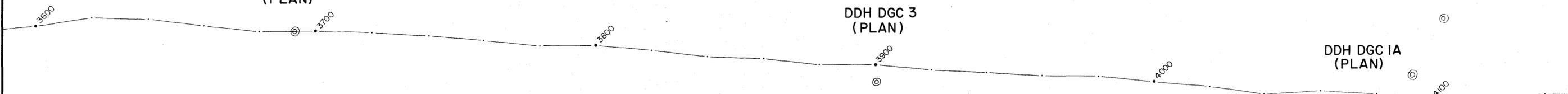


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(PLAN)**

**DDH DGC 3
(PLAN)**

**DDH DGC IB
(PLAN)**

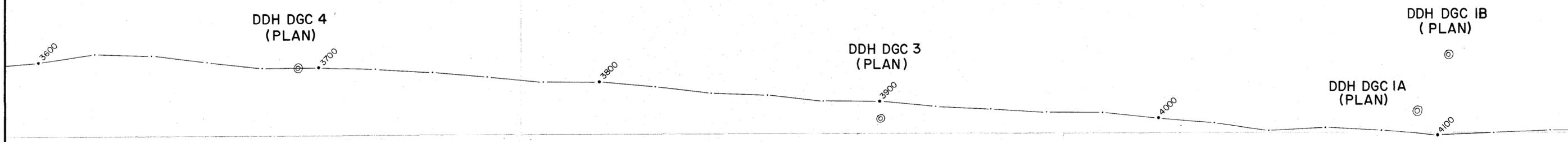
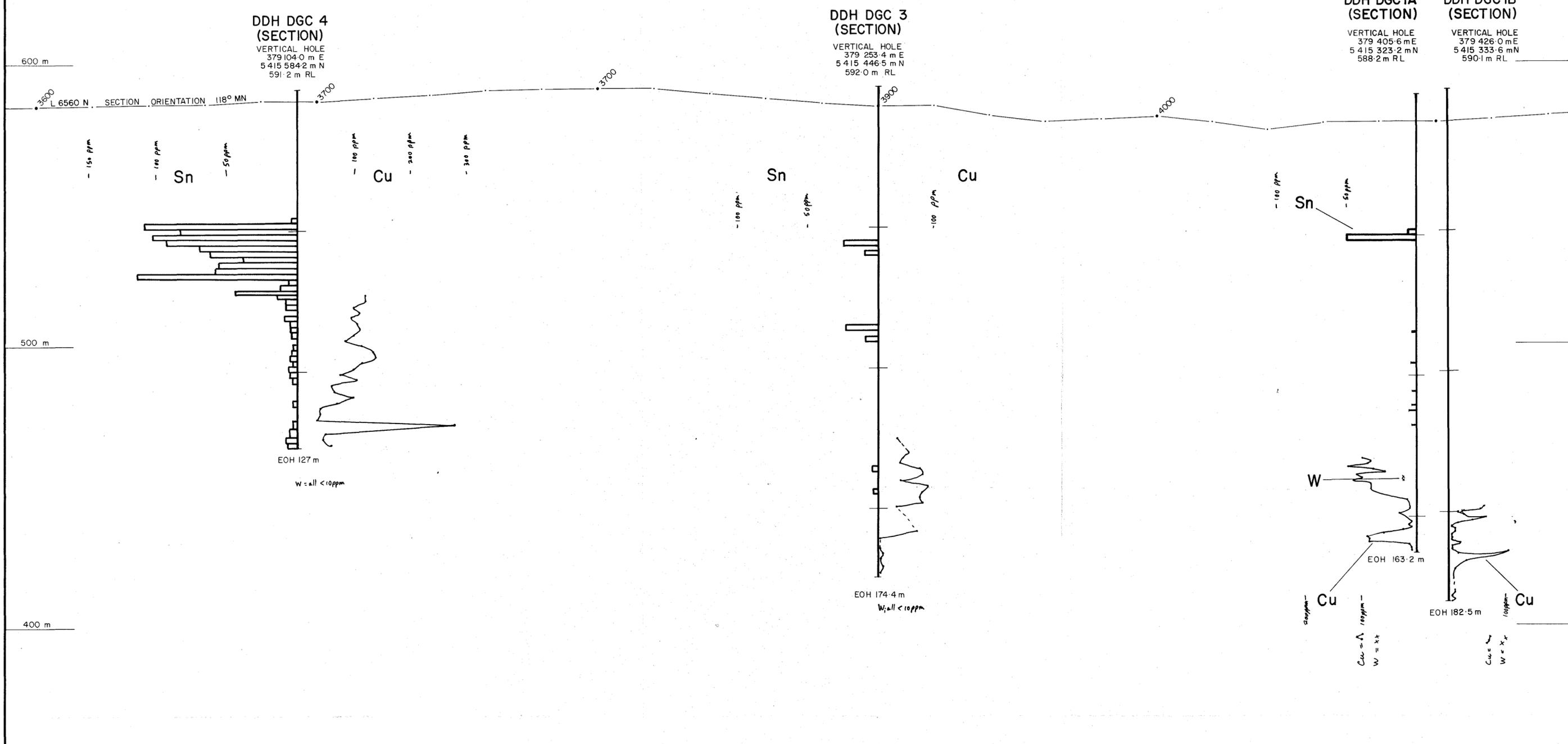
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(PLAN)**



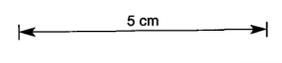
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SECTION OF DRILLHOLES DDH DGC IB,3,4			
MAGNETIC SUSCEPTIBILITY OF CORE			
COMPILED J. LEVINGS	DRAWN	DATE 9/5/84	APPROVED
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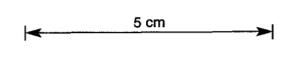
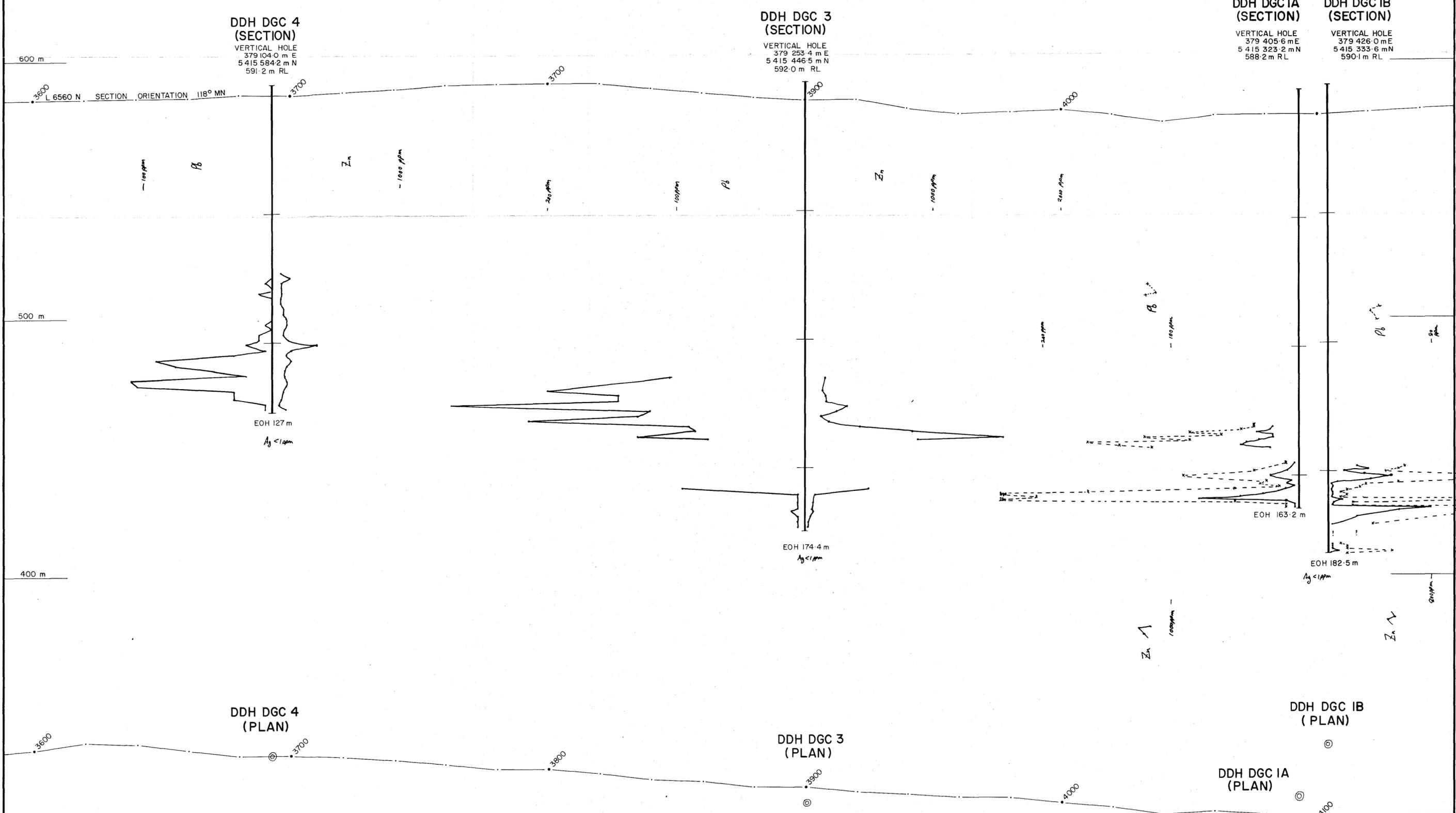
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COMSTAFF PROPRIETARY LIMITED			
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SECTION OF DRILLHOLES DDH DGC IB,3,4			
GEOCHEMICAL ASSAY RESULTS in ppm			
FOR Sn / Cu / W			
034			
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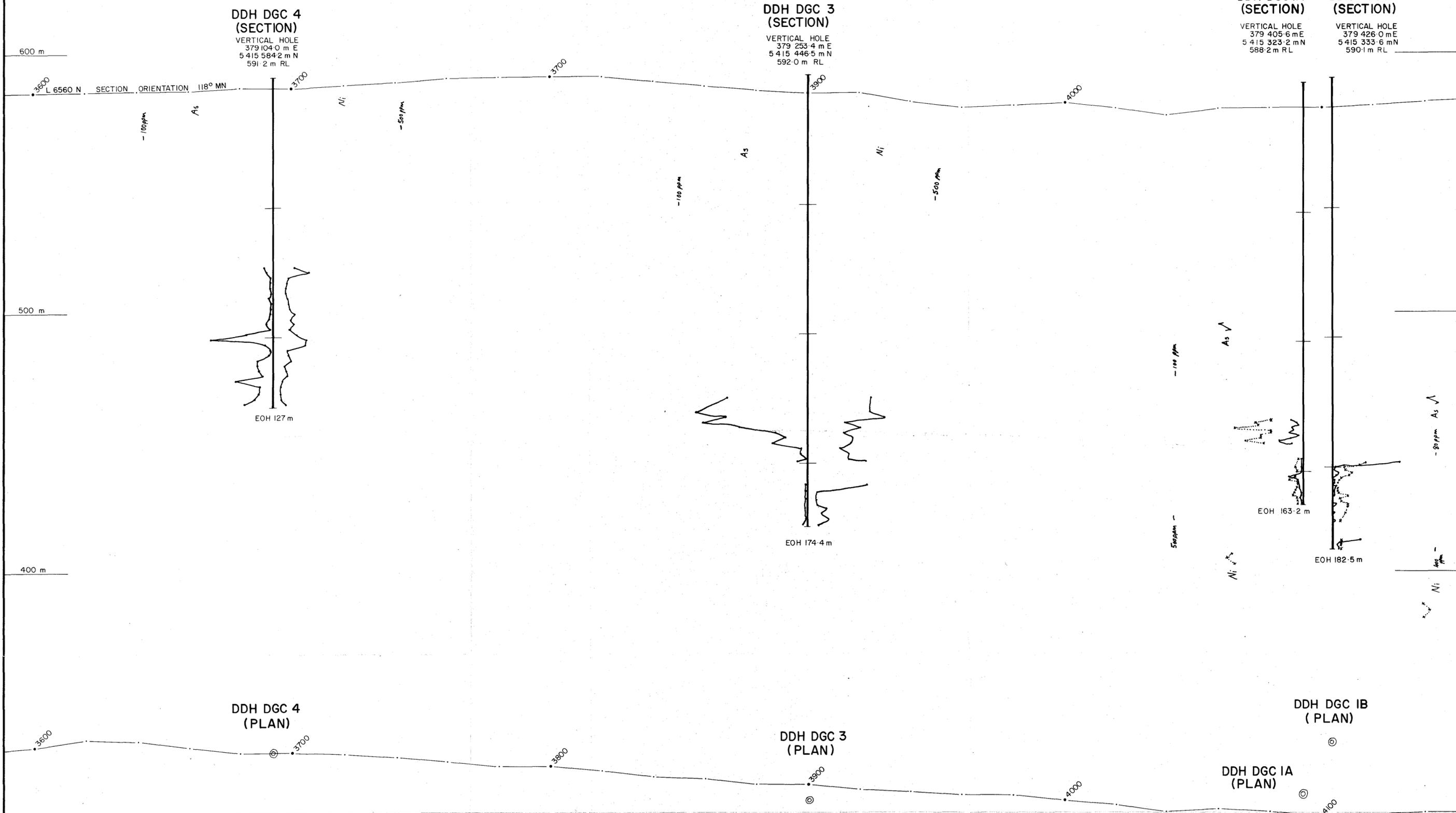


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COMSTAFF PROPRIETARY LIMITED			
DEEP GULLY CREEK GRID			
SECTION OF DRILLHOLES DDH DGC IB,3,4			
GEOCHEMICAL ASSAY RESULTS in ppm			
FOR Pb/Zn/Ag 035			
COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9 / 5 / 84	AMENDED
LEASE No EL 5 / 63	AREA I	SCALE 1 : 1000	PLAN No TAS/2/3909

85-2411



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379 104.0 m E
5 415 584.2 m N
591.2 m RL

**DDH DGC 3
(SECTION)**

VERTICAL HOLE
379 253.4 m E
5 415 446.5 m N
592.0 m RL

**DDH DGC IA
(SECTION)**

VERTICAL HOLE
379 405.6 m E
5 415 323.2 m N
588.2 m RL

**DDH DGC IB
(SECTION)**

VERTICAL HOLE
379 426.0 m E
5 415 333.6 m N
590.1 m RL

**DDH DGC 4
(PLAN)**

**DDH DGC 3
(PLAN)**

**DDH DGC IB
(PLAN)**

**DDH DGC IA
(PLAN)**

5 cm

85-2411

COMSTAFF PROPRIETARY LIMITED			
DEEP GULLY CREEK GRID SECTION OF DRILLHOLES DDH DGC IB,3,4 GEOCHEMICAL ASSAY RESULTS in ppm FOR As / Ni 036			
COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9/5/84	AMENDED
LEASE No EL 5/63	AREA I	SCALE 1:1000	PLAN No TAS/2/3910

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(SECTION)

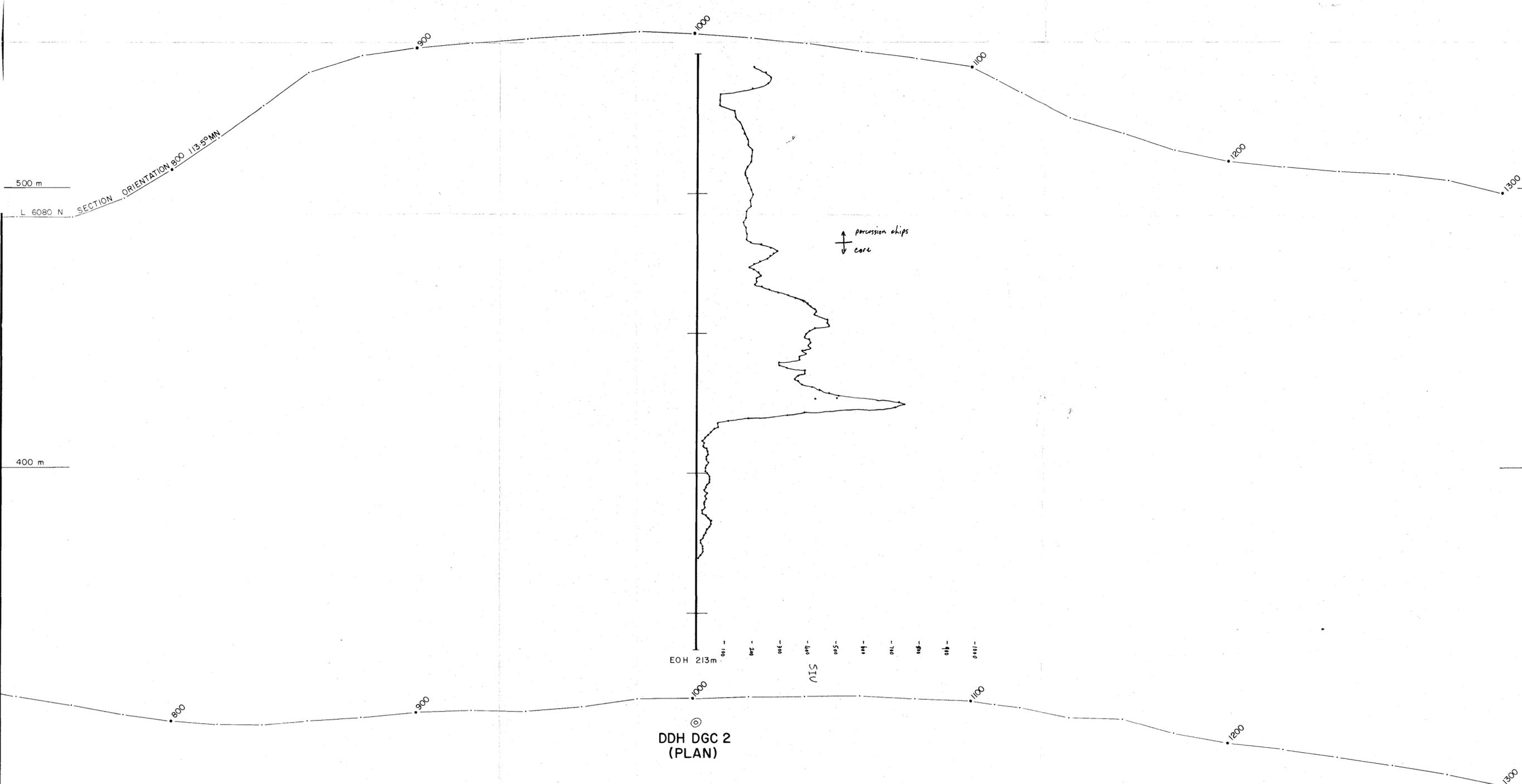
VERTICAL HOLE
378 831.8 m E
5 415 197.3 m N
548.1 m RL

156038

600 m

500 m

400 m



SECTION ORIENTATION 800 113.9°MN

L 6080 N

EOH 213m

SIV

DDH DGC 2
(PLAN)

5 cm

COMSTAFF PROPRIETARY LIMITED
DEEP GULLY CREEK GRID 037
SECTION OF DRILLHOLE DDH DGC 2
MAGNETIC SUSCEPTIBILITY OF CORE

COMPILED J. LEVINGS	DRAWN	DATE 9/5/84	AMENDED
LEAF NO. EL 5/63	AREA 1	SCALE 1:1000	PLAN NO. TAS/2/3914

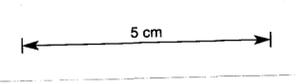
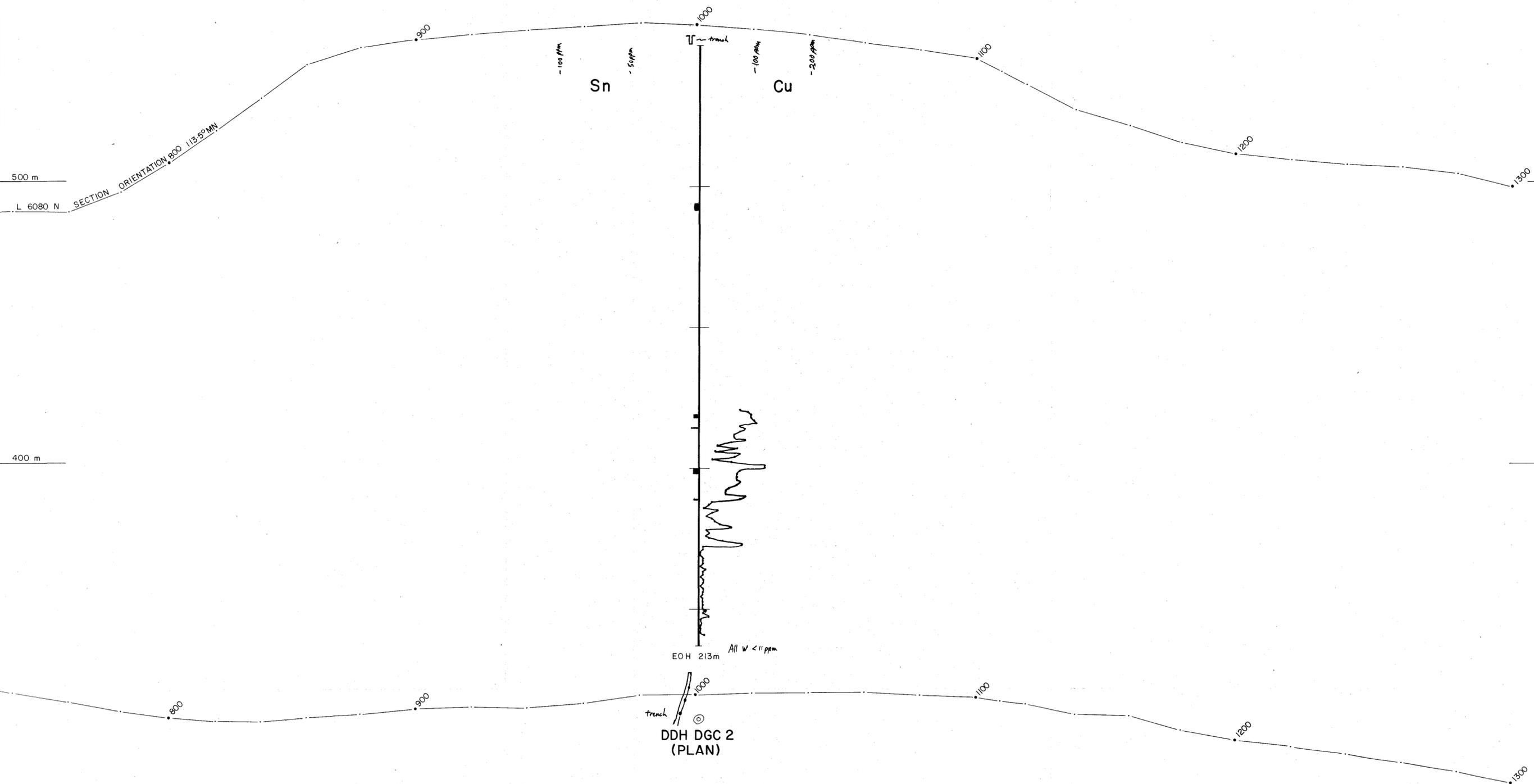
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DDH DGC 2
(SECTION)
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5 415 197.3 m N
548.1 m RL

600 m

500 m

400 m

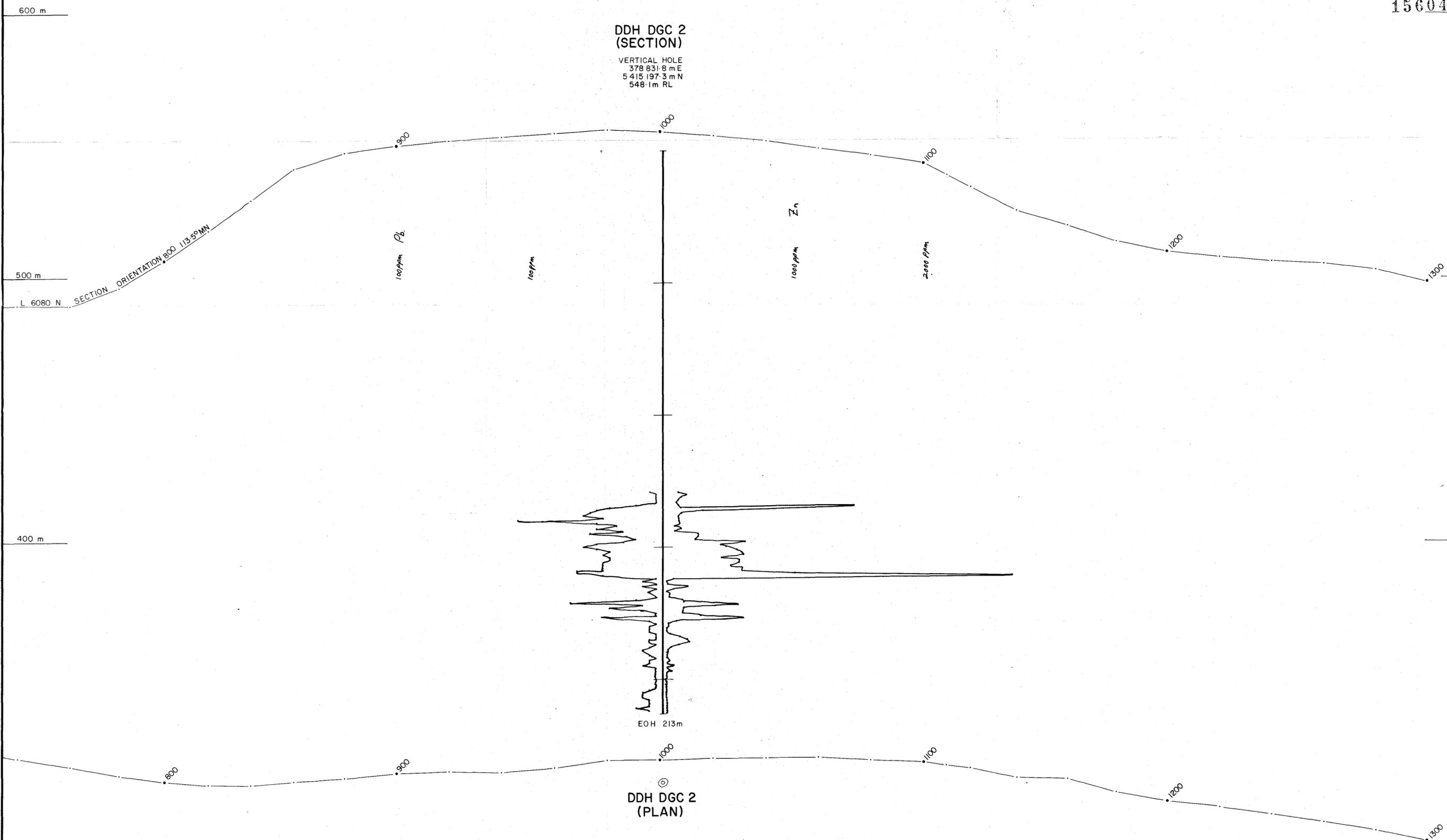


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COMSTAFF PROPRIETARY LIMITED			
DEEP GULLY CREEK GRID			
SECTION OF DRILLHOLE DDH DGC 2			
GEOCHEMICAL ASSAY RESULTS in ppm			
FOR Sn / Cu / W 038			
COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9 / 5 / 84	AMENDED
LEASE No. EL 5 / 63	AREA 1	SCALE 1 : 1000	PL. AN. No. TAS / 2 / 3915

DDH DGC 2
(SECTION)

VERTICAL HOLE
378 831.8 m E
5 415 197.3 m N
548.1 m RL



DDH DGC 2
(PLAN)

5 cm

COMSTAFF PROPRIETARY LIMITED

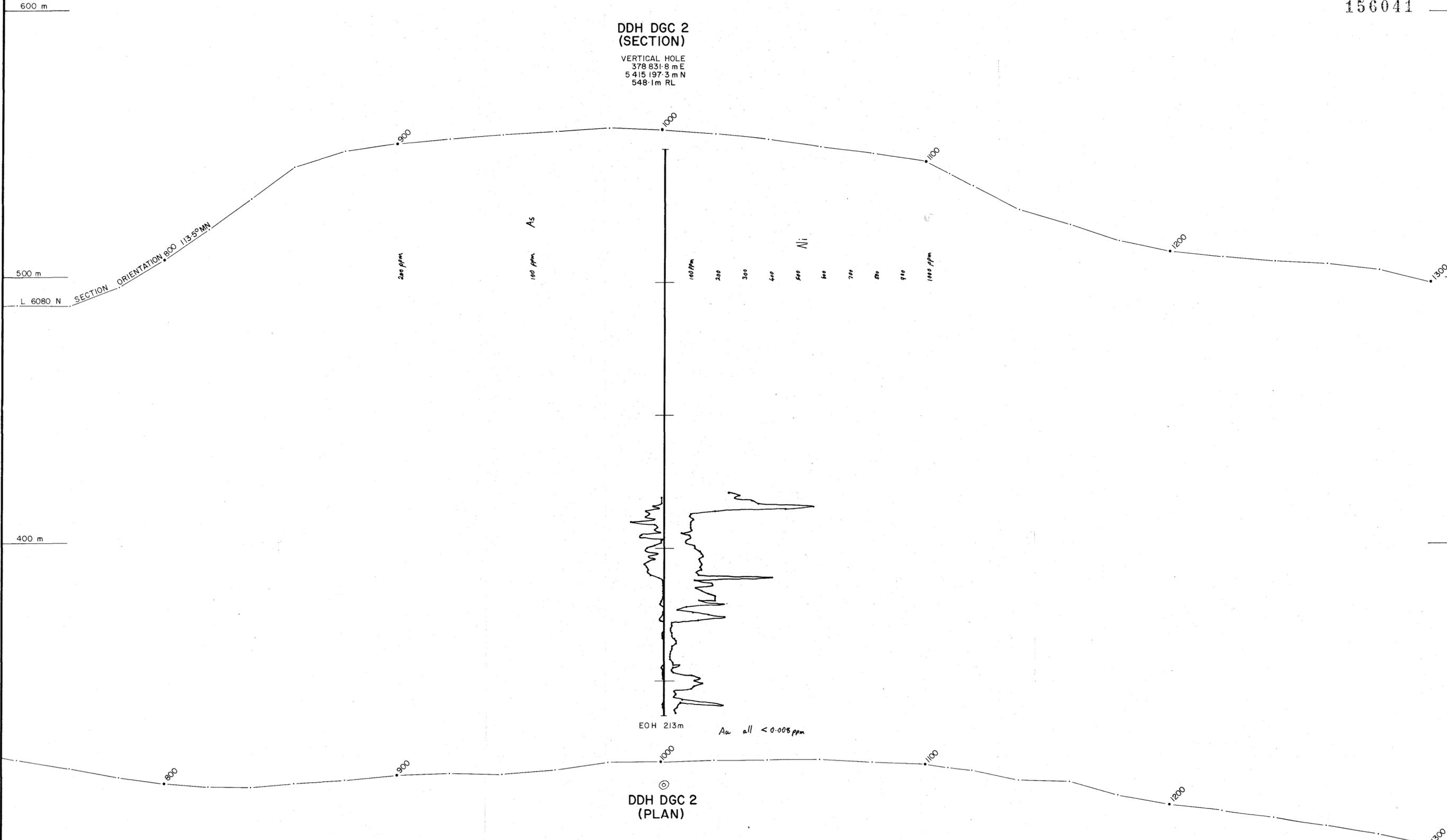
DEEP GULLY CREEK GRID
SECTION OF DRILLHOLE DDH DGC 2
GEOCHEMICAL ASSAY RESULTS in ppm
FOR Pb / Zn / Ag 039

COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9 / 5 / 84	AMENDED
LEASE No E L 5 / 63	AREA I	SCALE 1 : 1000	PLAN No TAS/2/3916

85-2417

DDH DGC 2
(SECTION)

VERTICAL HOLE
378 831.8 m E
5 415 197.3 m N
548.1 m RL



COMSTAFF PROPRIETARY LIMITED

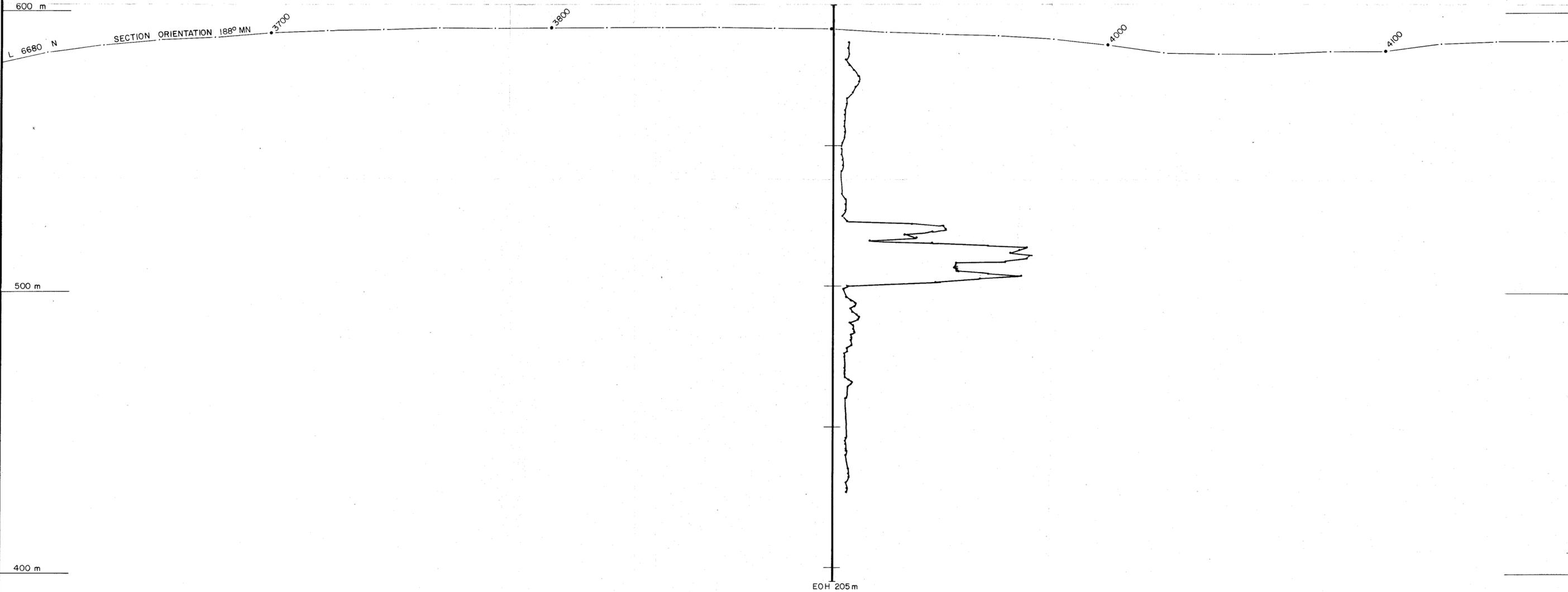
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SECTION OF DRILLHOLE DDH DGC 2
GEOCHEMICAL ASSAY RESULTS in ppm
FOR As/Ni/Au 040

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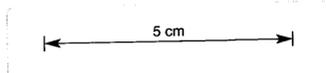
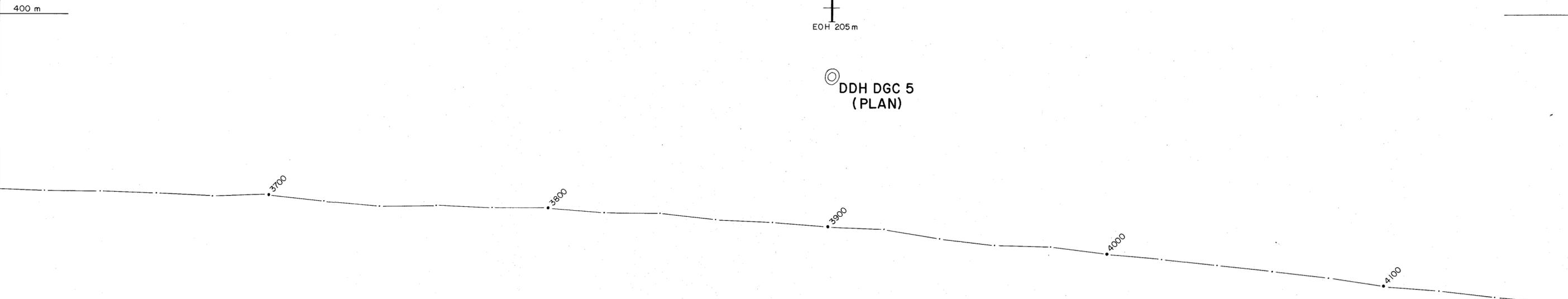
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DDH DGC 5
(SECTION)

VERTICAL HOLE
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602.1 m RL



DDH DGC 5
(PLAN)

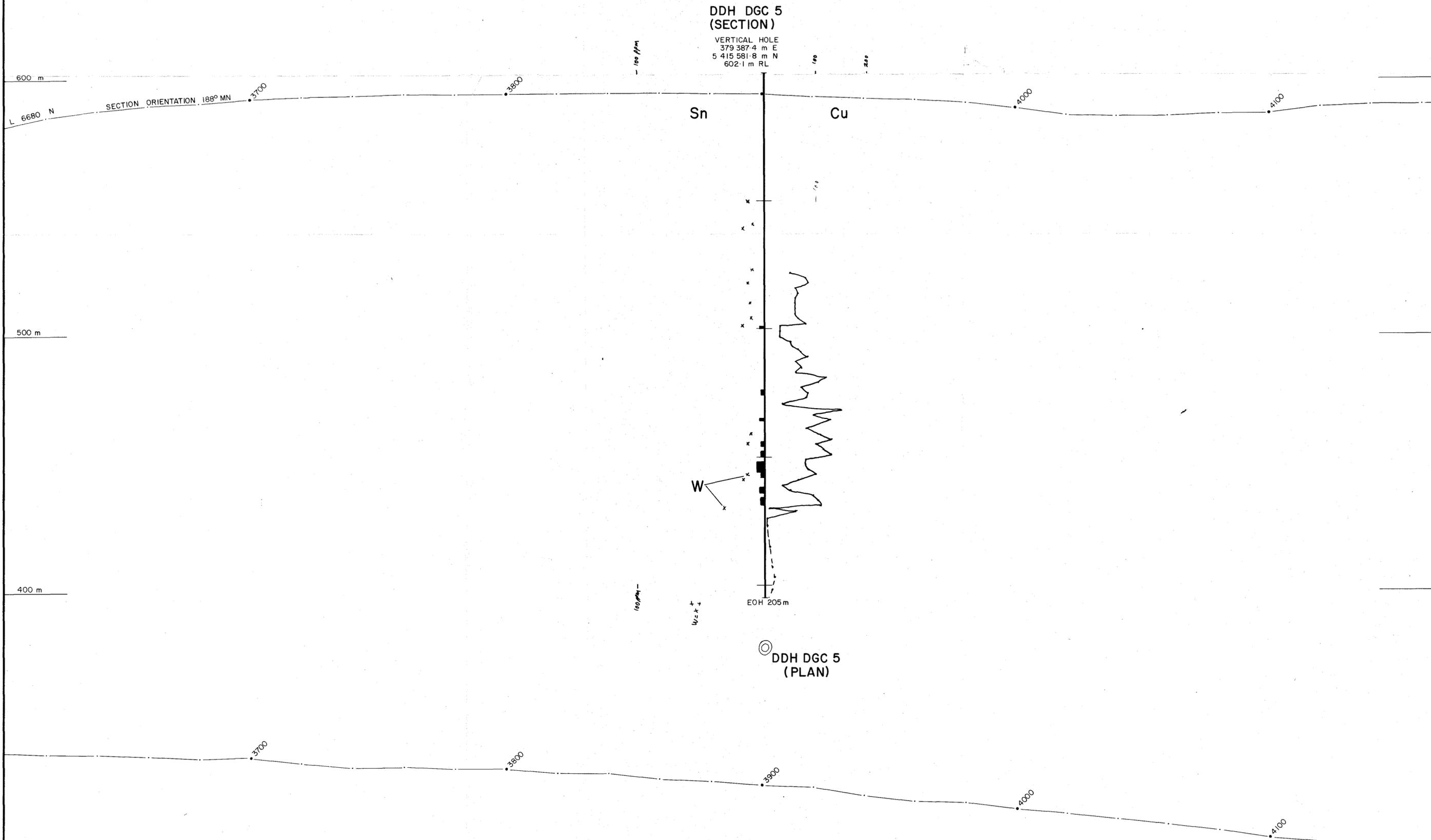


COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
SECTION OF DRILLHOLE DDH DGC 5
MAGNETIC SUSCEPTIBILITY OF CORE
041

COMPILED	DRAWN	DATE	AMENDED
J. LEVINGS		9 / 5 / 84	
LEASE No	AREA	SCALE	PLAN No
EL 5 / 63	I	1 : 1000	TAS/2/3921

85-2411



COMSTAFF PROPRIETARY LIMITED

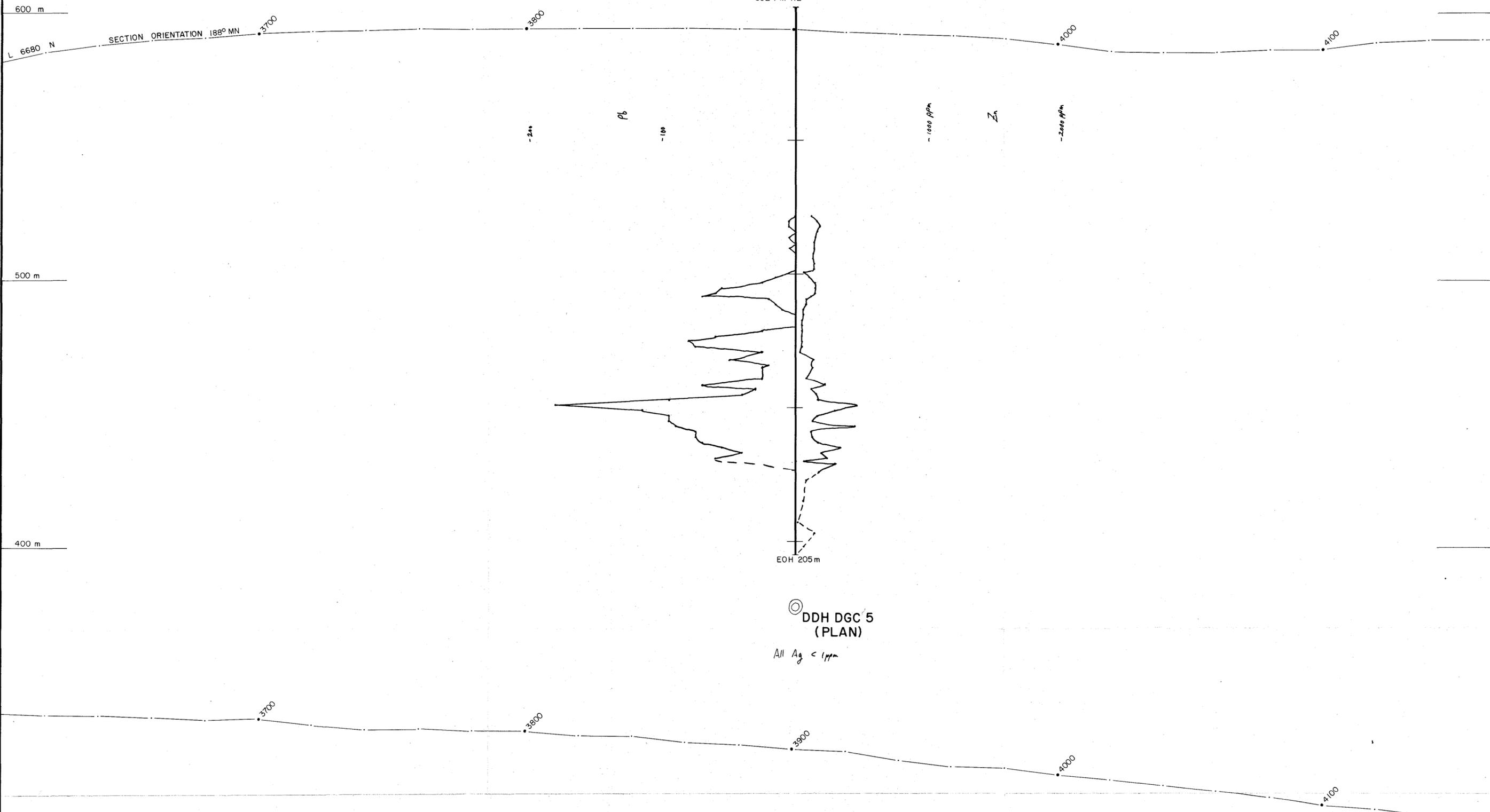
DEEP GULLY CREEK GRID
SECTION OF DRILLHOLE DDH DGC 5
GEOCHEMICAL ASSAY RESULTS in ppm
FOR Sn / Cu / W 042

COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9 / 5 / 84	AMENDED
LEASE No EL 5 / 63	AREA 1	SCALE 1 : 1000	PLAN No TAS/2/3922

85-2411

DDH DGC 5
(SECTION)

VERTICAL HOLE
379 387.4 m E
5 415 581.8 m N
602.1 m RL



EOH 205m

DDH DGC 5
(PLAN)

All Ag < 1ppm



COMSTAFF PROPRIETARY LIMITED

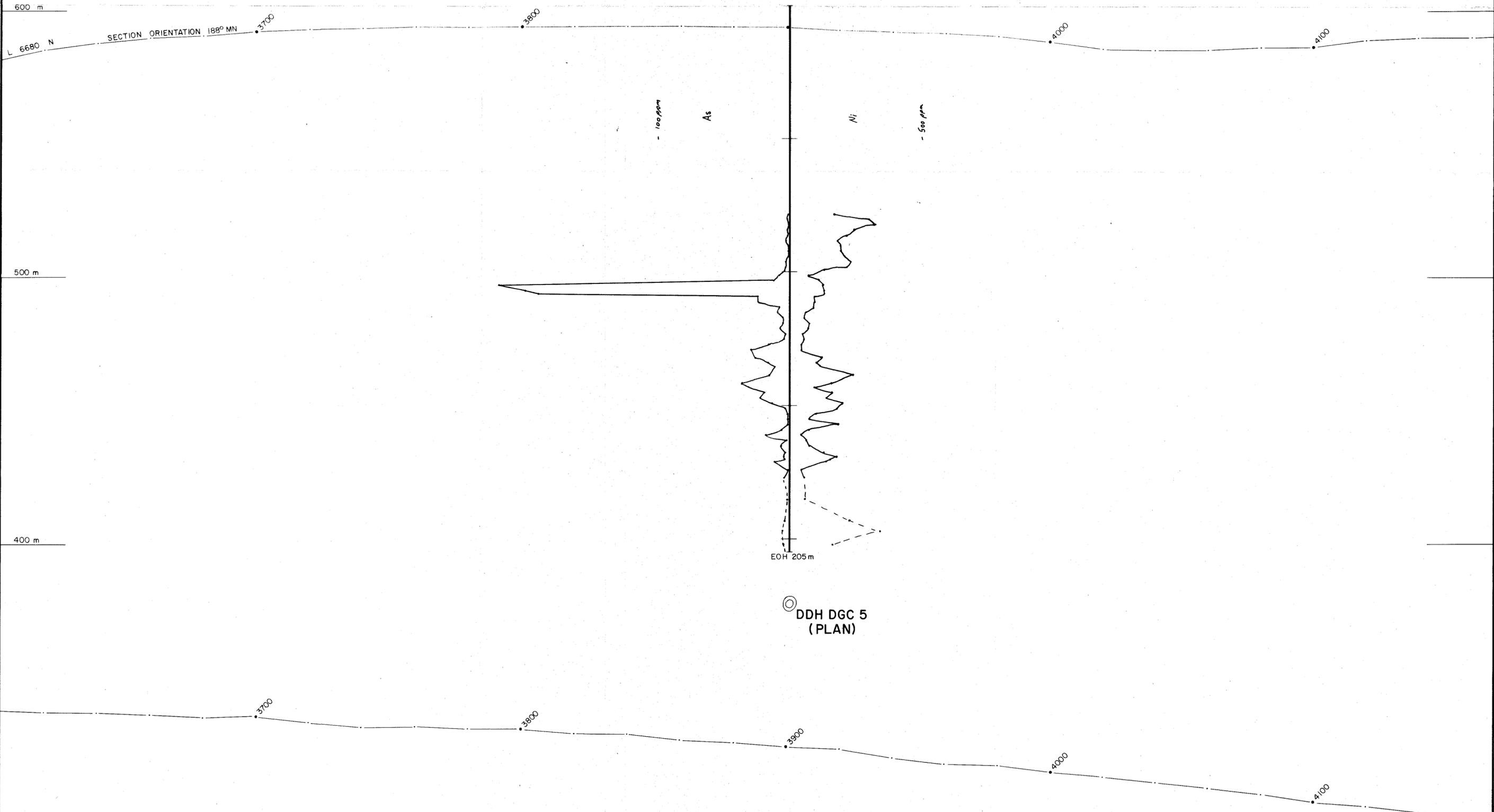
DEEP GULLY CREEK GRID
SECTION OF DRILLHOLE DDH DGC 5
GEOCHEMICAL ASSAY RESULTS in ppm
FOR Pb / Zn / Ag 043

COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9 / 5 / 84	AMENDED
LEASE NO EL 5 / 63	AREA 1	SCALE 1 : 1000	PLAN NO TAS / 2 / 3923

85-24-11

DDH DGC 5
(SECTION)

VERTICAL HOLE
379 387.4 m E
5 415 581.8 m N
602.1 m RL

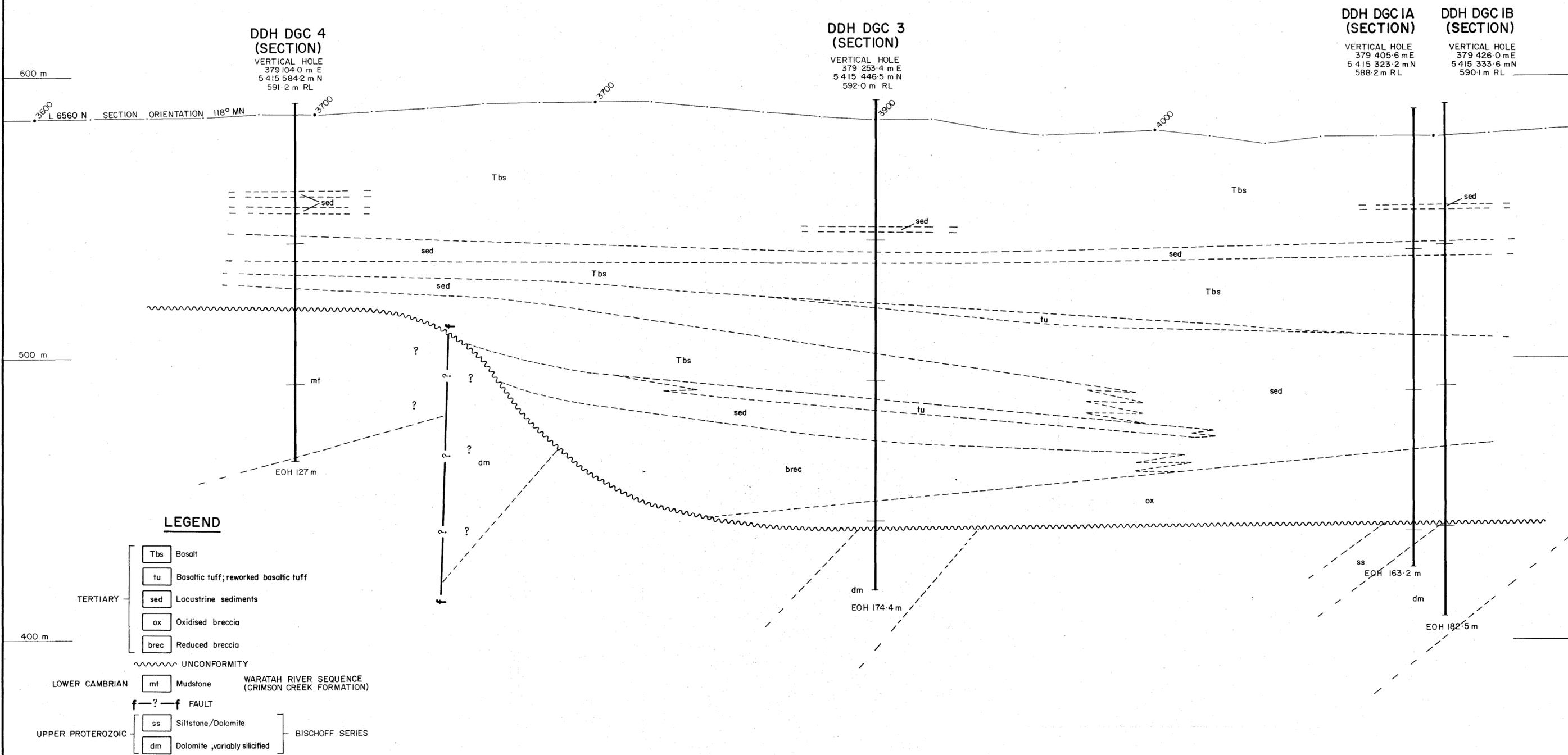


COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
SECTION OF DRILLHOLE DDH DGC 5
GEOCHEMICAL ASSAY RESULTS in ppm
FOR As / Ni 044

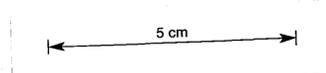
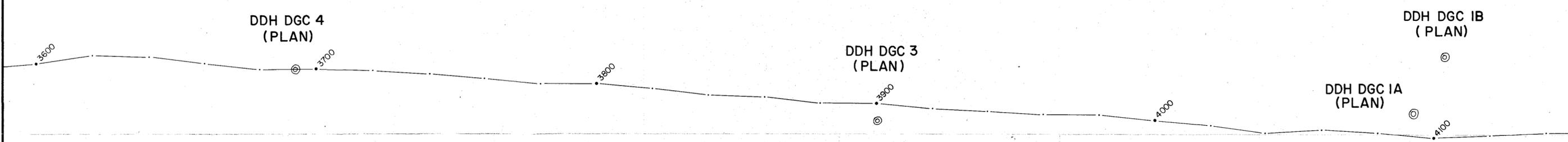
COMPILED J. LEVINGS	DRAWN H. PAPAS	DATE 9 / 5 / 84	AMENDED
LEASE NO. EL 5 / 63	AREA I	SCALE 1 : 1000	PLAN NO. TAS/2/3924

95-2411



LEGEND

- Tertiary
 - Tbs Basalt
 - tu Basaltic tuff; reworked basaltic tuff
 - sed Lacustrine sediments
 - ox Oxidised breccia
 - brec Reduced breccia
- UNCONFORMITY
- LOWER CAMBRIAN
 - mt Mudstone (WARATAH RIVER SEQUENCE (CRIMSON CREEK FORMATION))
- UPPER PROTEROZOIC
 - ss Siltstone/Dolomite
 - dm Dolomite, variably silicified
- FAULT (indicated by a dashed line with question marks)
- BISCHOFF SERIES (bracketed around ss and dm)

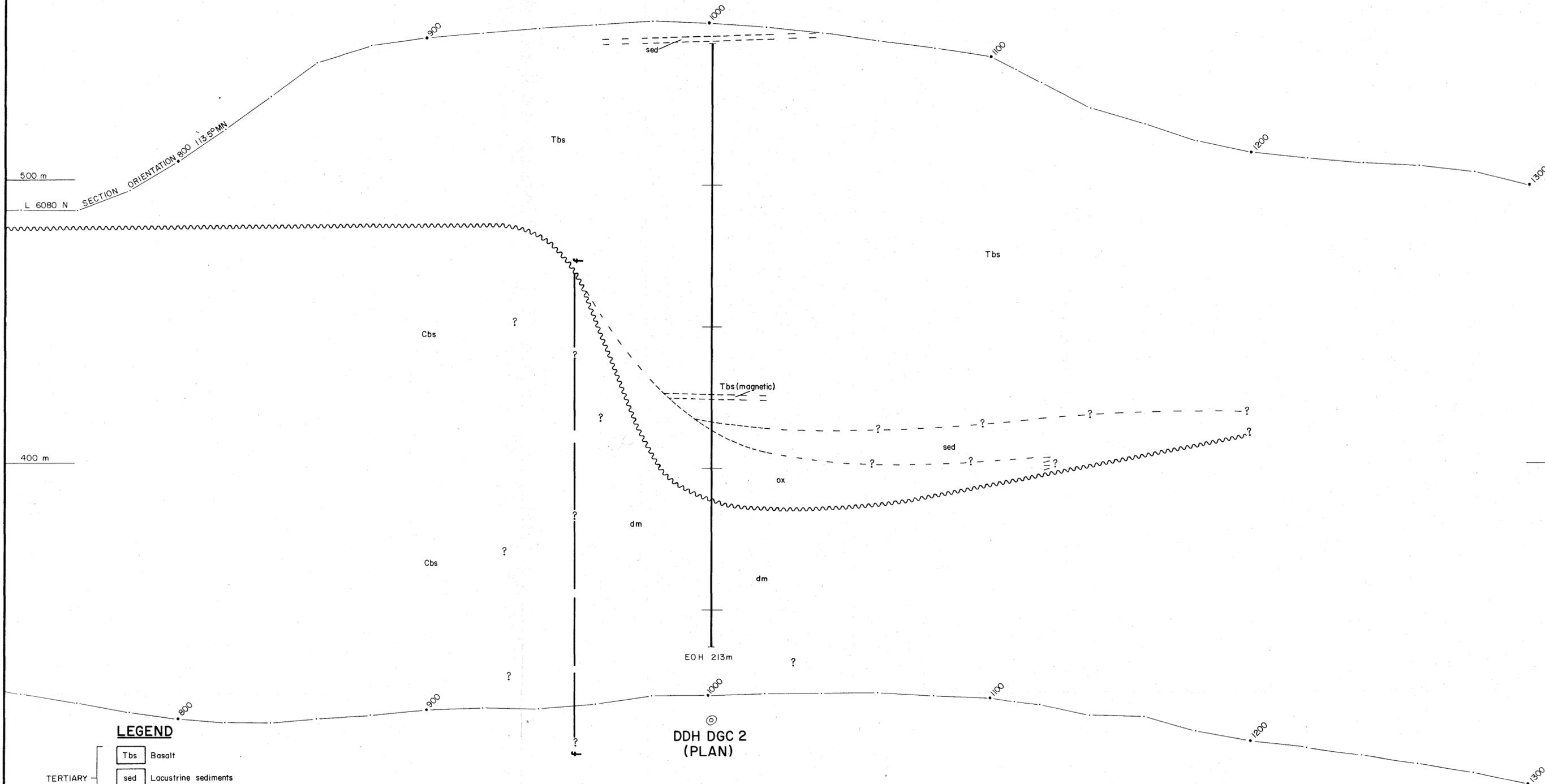


85-2411

COMSTAFF PROPRIETARY LIMITED			
DEEP GULLY CREEK GRID			
SECTION OF DRILLHOLES DDH DGC IB,3,4			
GEOLOGICAL INTERPRETATION			
045			
COMPILED J. LEVINGS	DRAWN J. HARDISTY	DATE 9/5/84	AMENDED
RELEASED EL 5/63	AREA 1	SCALE 1:1000	P. AN. NO. TAS/2/3906

DDH DGC 2 (SECTION)

VERTICAL HOLE
378 831.8 m E
5 415 197.3 m N
548.1 m RL

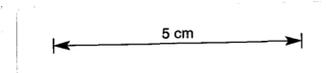


DDH DGC 2 (PLAN)

EOH 213m

LEGEND

- TERTIARY
 - Tbs Basalt
 - sed Lacustrine sediments
 - ox Oxidised breccia
- UNCONFORMITY
- LOWER CAMBRIAN
 - Cbs Basalt (inferred)
- UPPER PROTEROZOIC
 - dm Dolomite, variably silicified
- WARATAH RIVER SEQUENCE
(CRIMSON CREEK FORMATION)
- BISCHOFF SERIES
- f - ? - f FAULT



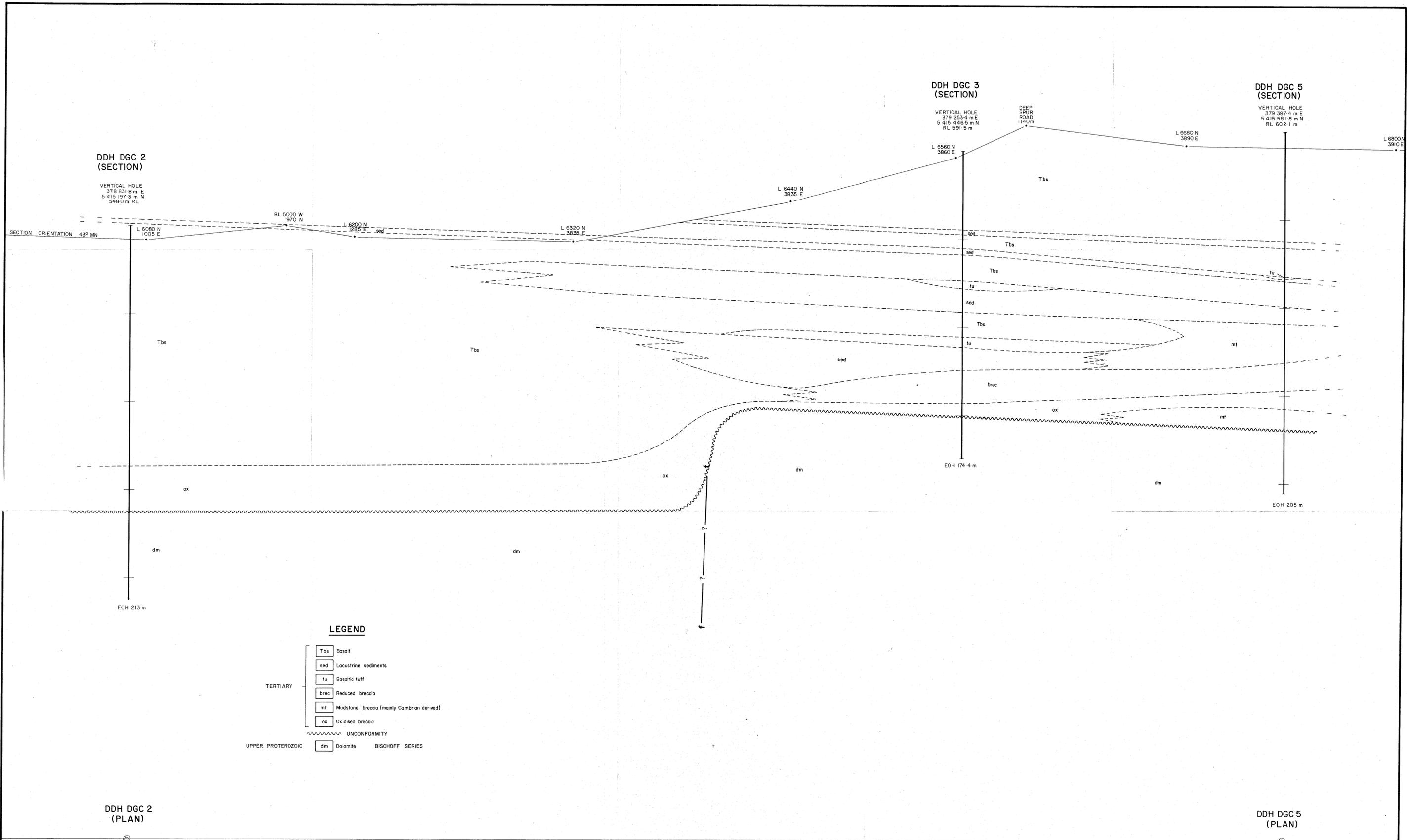
COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
SECTION OF DRILLHOLE DDH DGC 2
GEOLOGICAL INTERPRETATION

046

COMPILED J. LEVINGS	DRAWN J. HARDISTY	DATE 9 / 5 / 84	REVISED
LEASE No. EL 5 / 63	AREA I	SCALE 1 : 1000	PLAN No. TAS/2/3913

85-2411



LEGEND

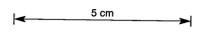
- Tertiary
 - Tbs Basalt
 - sed Lacustrine sediments
 - tu Basaltic tuff
 - brec Reduced breccia
 - mt Mudstone breccia (mainly Cambrian derived)
 - ox Oxidised breccia
- UNCONFORMITY
- UPPER PROTEROZOIC
 - dm Dolomite BISCHOFF SERIES

DDH DGC 2 (PLAN)

DDH DGC 5 (PLAN)

DDH DGC 3 (PLAN)

156048



COMSTAFF PROPRIETARY LIMITED

TITLE EL 5/63	PROJECT DEEP GULLY CREEK GRID SECTION BETWEEN DDH DGC 2 & 5 GEOLOGICAL INTERPRETATION	DRAWN BY J. LEVINGS J. HARDISTY DATE 10 / 5 / 84 SCALE 1 : 1000 REF. No. TAS/2/3927
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5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

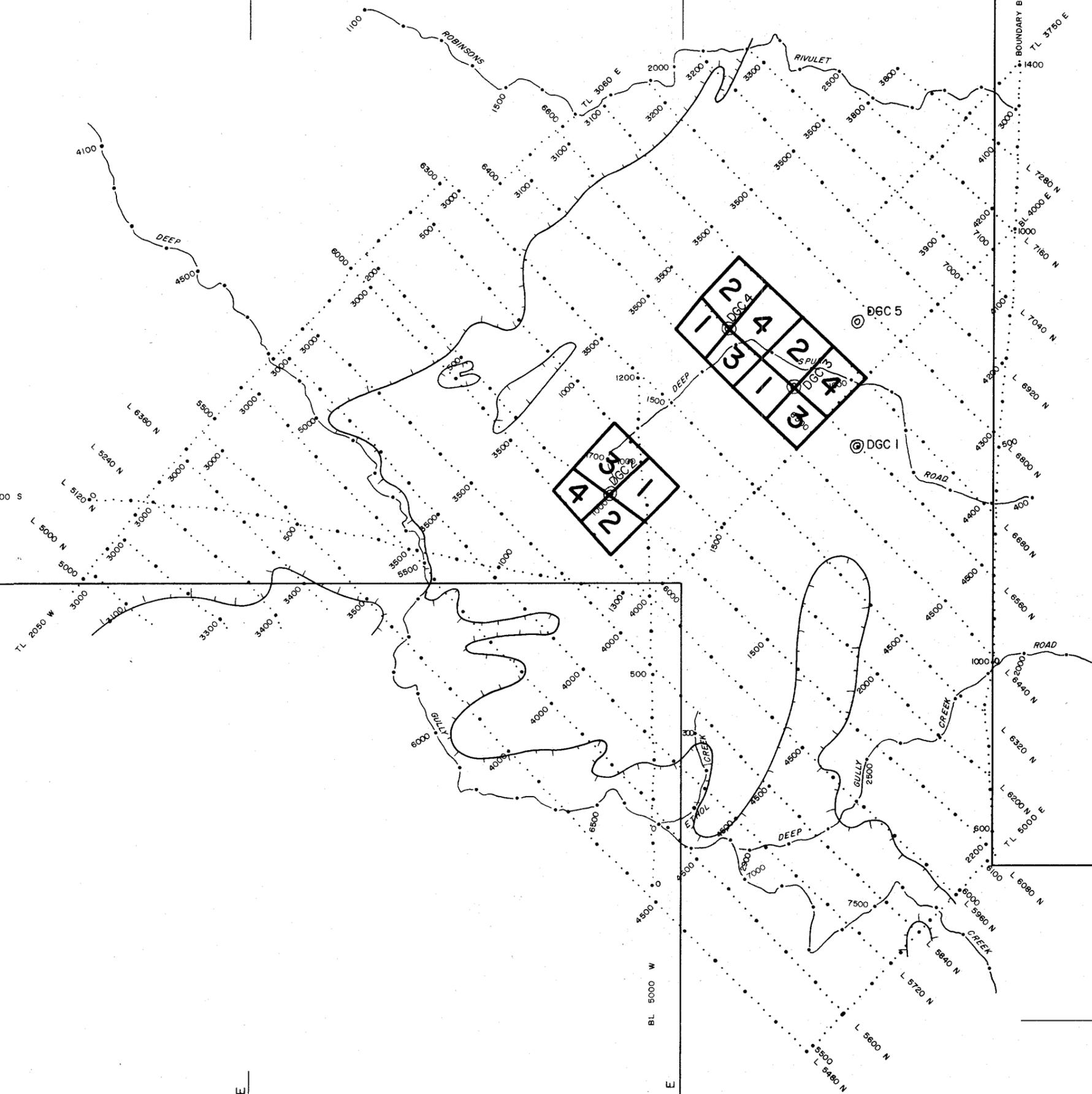
380 000 m E

TL 1400 S

TL 2050 W

BL 5000 W

BOUNDARY BASE LINE
TL 3750 E



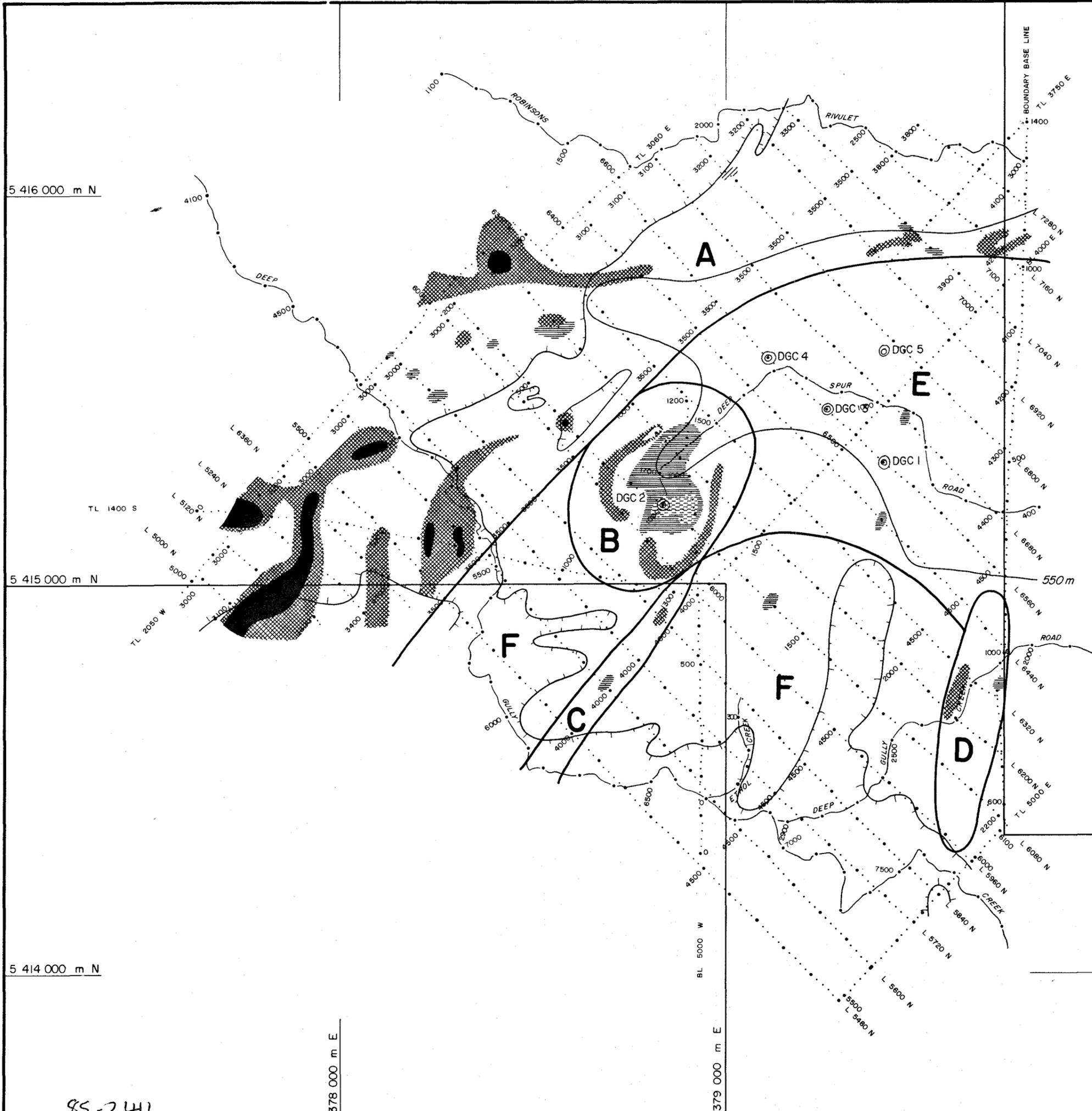
5 cm

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID 048
PLAN SHOWING DOWNHOLE SIROTEM
LOOP CONFIGURATION FOR DGC 2,3,4
BY SOLO GEOPHYSICS MAY 1984

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA 1	SCALE 1:10 000	PLAN No TAS/2/4003

85-2411



LEGEND

-  Ground magnetic response - strong positive
-  Ground magnetic response - mild positive
-  Ground magnetic response - mild negative
-  Ground magnetic response - strong negative
- A - F Magnetic provinces

5 cm

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID **049**
 GROUND MAGNETIC INTERPRETATION
 SHOWING MAGNETIC PROVINCES

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA I	SCALE 1:10 000	PLAN No TAS/2/4004

5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

380 000 m E

85-241

5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

380 000 m E

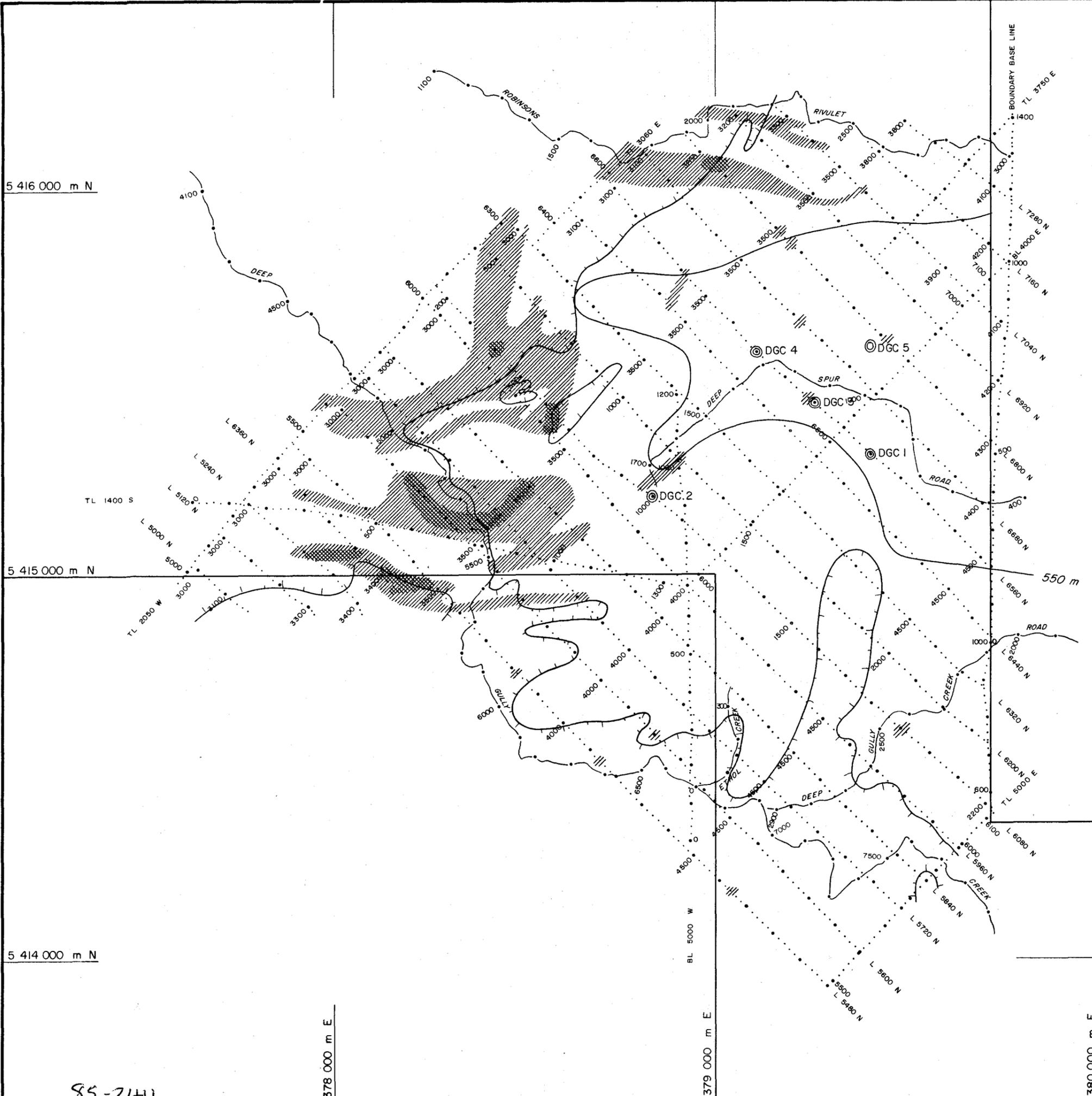
LEGEND

-  > 200 ppm
-  63 - 199 ppm

5 cm

COMSTAFF PROPRIETARY LIMITED			
DEEP GULLY CREEK GRID GEOCHEMICAL GRID AUGER SAMPLING COPPER CONTOURS 050			
COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA 1	SCALE 1:10 000	PLAN No TAS/2/4005

85-2411



5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

380 000 m E

85-2411

LEGEND

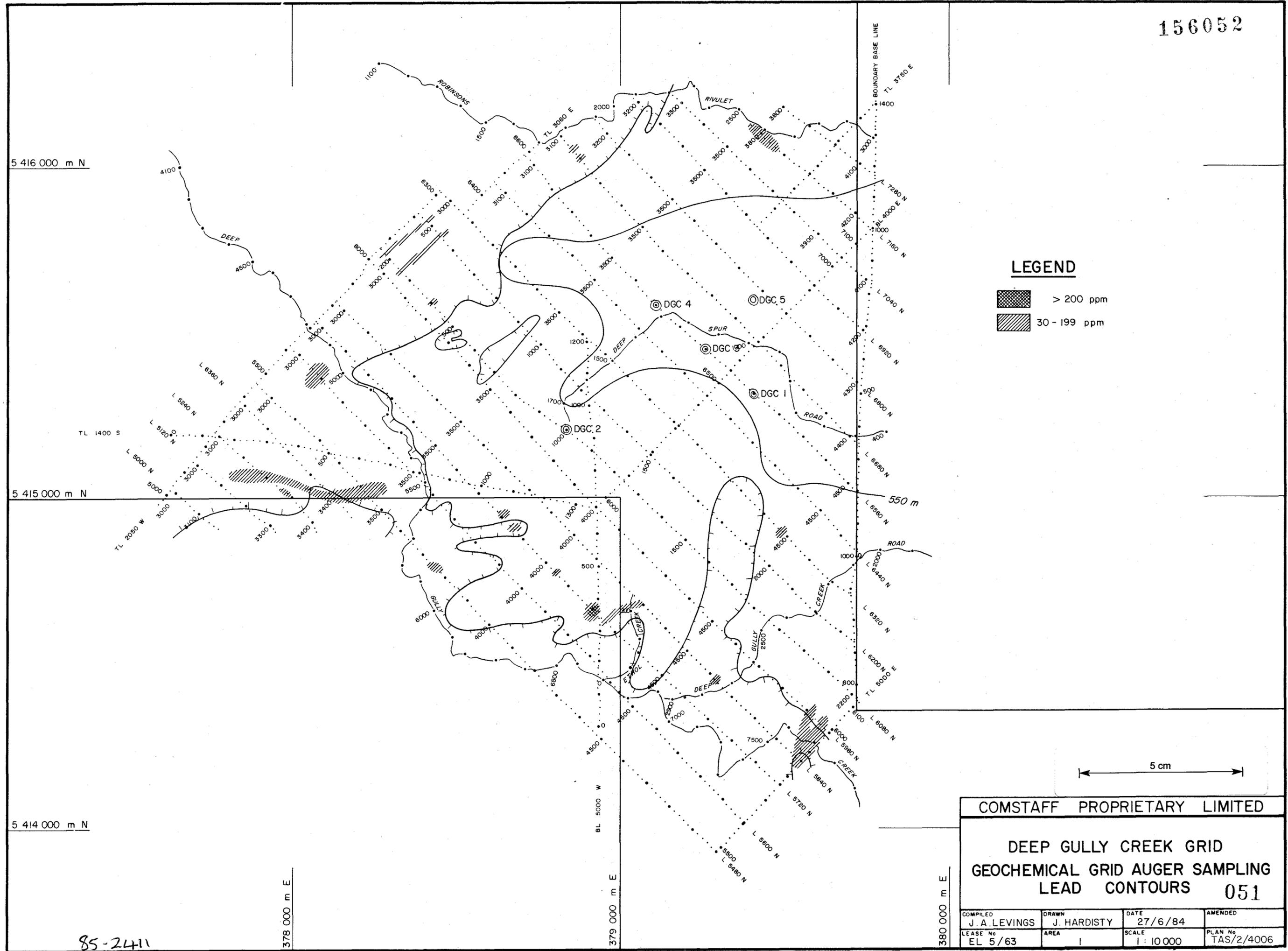
-  > 200 ppm
-  30 - 199 ppm

5 cm

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
 GEOCHEMICAL GRID AUGER SAMPLING
 LEAD CONTOURS 051

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA 1	SCALE 1:10 000	PLAN No TAS/2/4006



5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

380 000 m E

LEGEND

 > 200 ppm

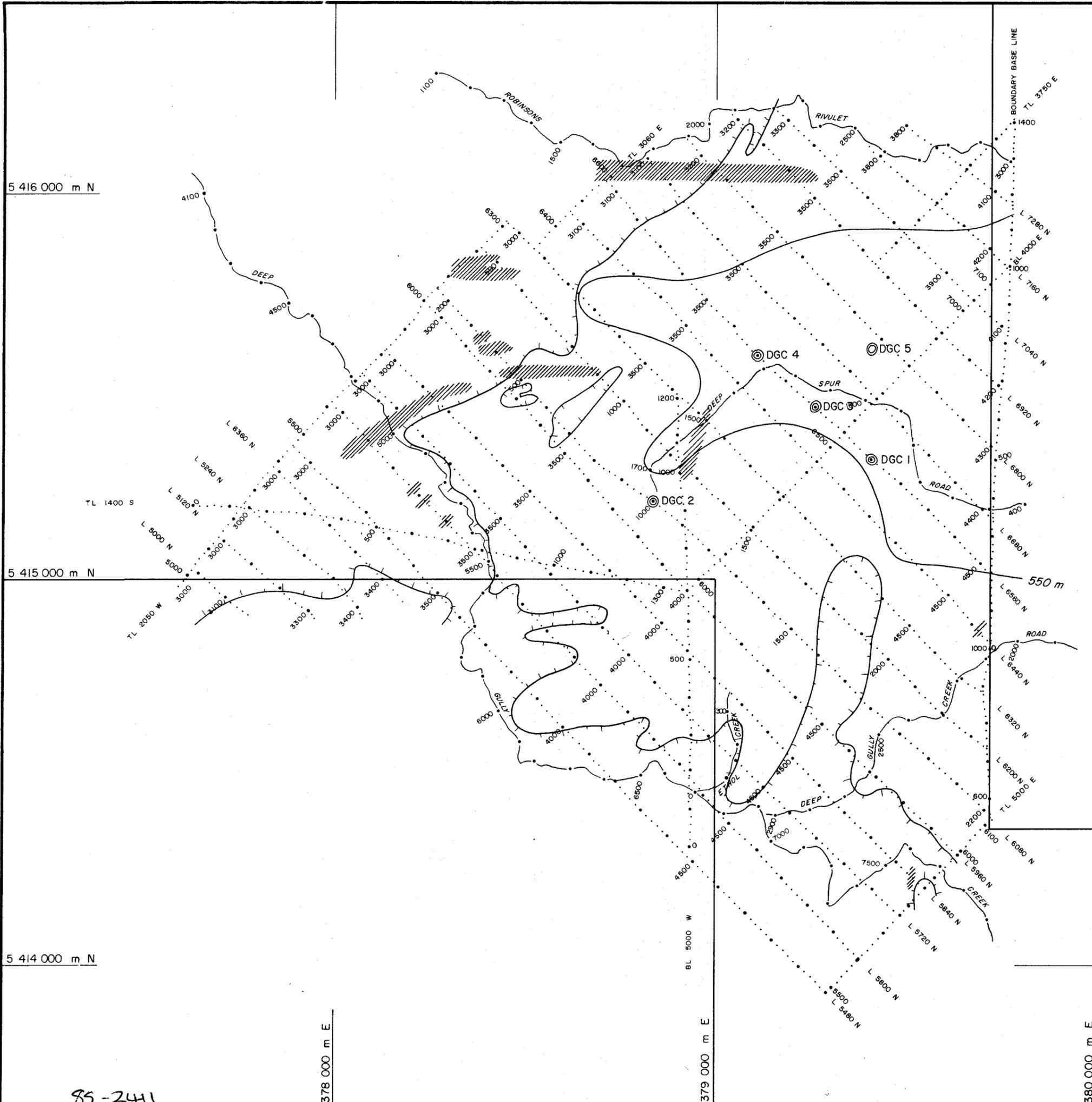
5 cm

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
GEOCHEMICAL GRID AUGER SAMPLING
ZINC CONTOURS 052

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA 1	SCALE 1:10 000	PLAN No TAS/2/4007

85-2411



5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

380 000 m E

LEGEND

 > 10 ppm

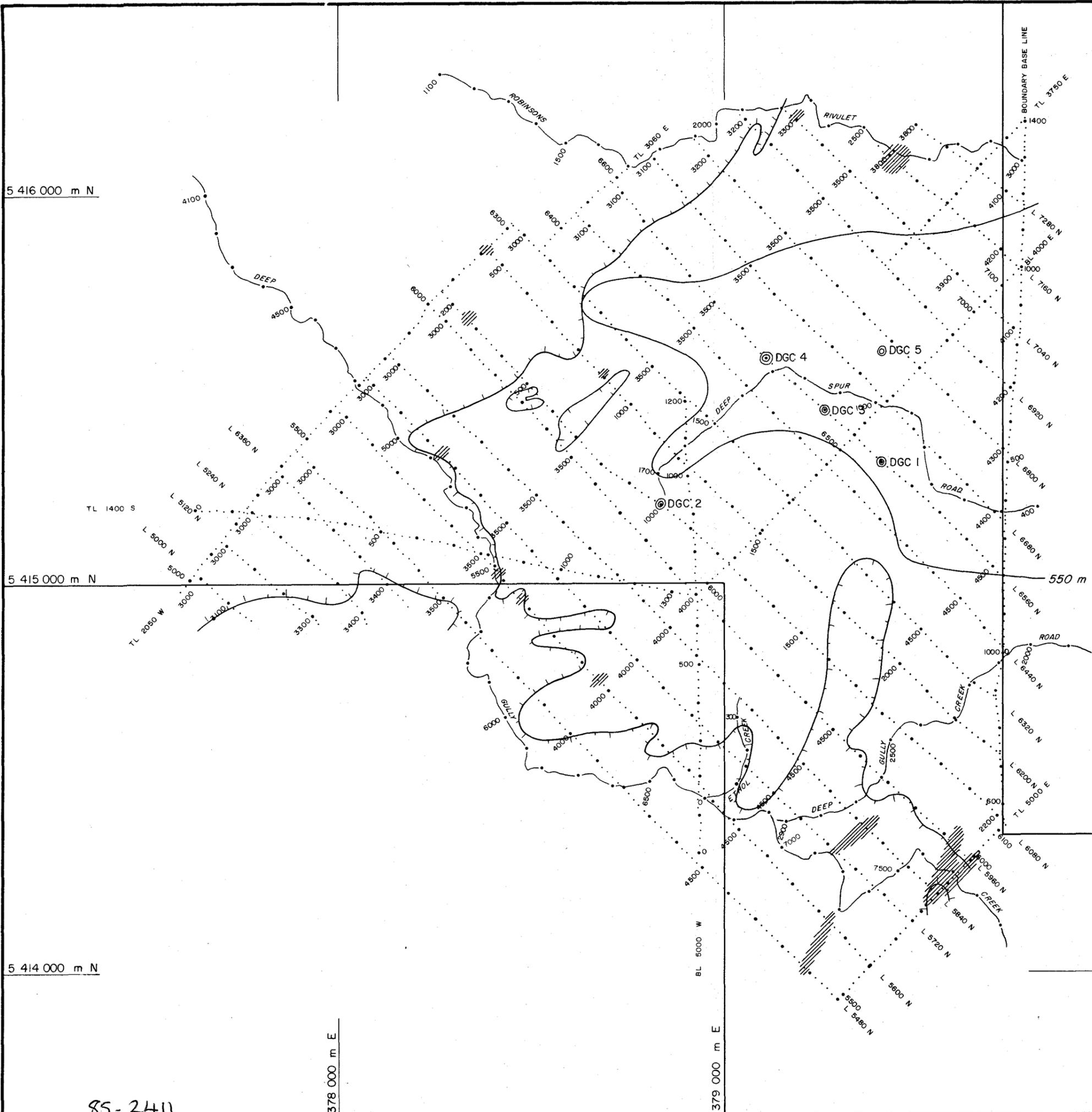
5 cm

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
GEOCHEMICAL GRID AUGER SAMPLING
ARSENIC CONTOURS 053

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA I	SCALE 1:10 000	PLAN No TAS/2/4008

85-2411



5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

380 000 m E

LEGEND

-  > 1000 ppm
-  80-999 ppm
-  20 - 79 ppm

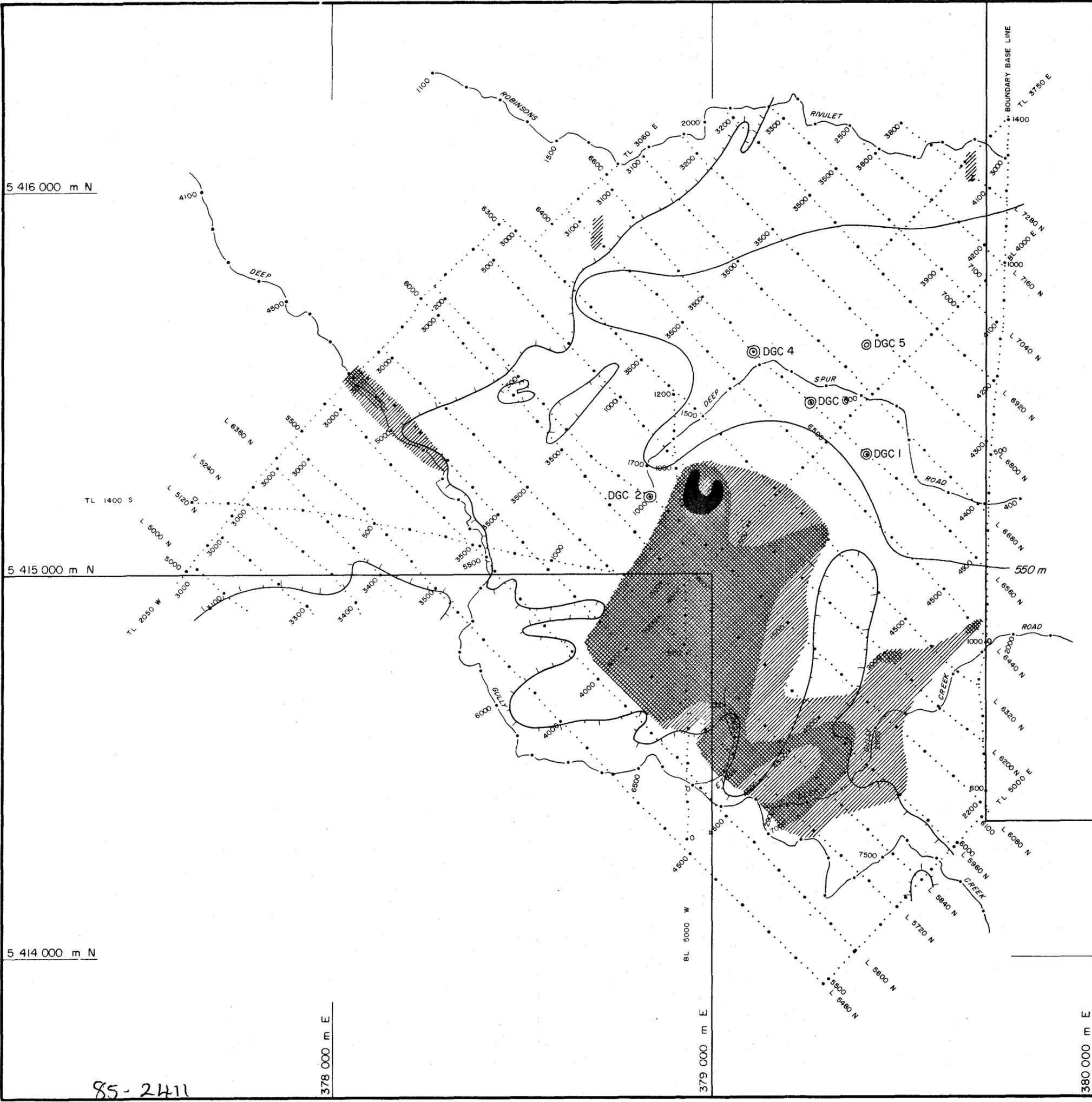
5 cm

COMSTAFF PROPRIETARY LIMITED

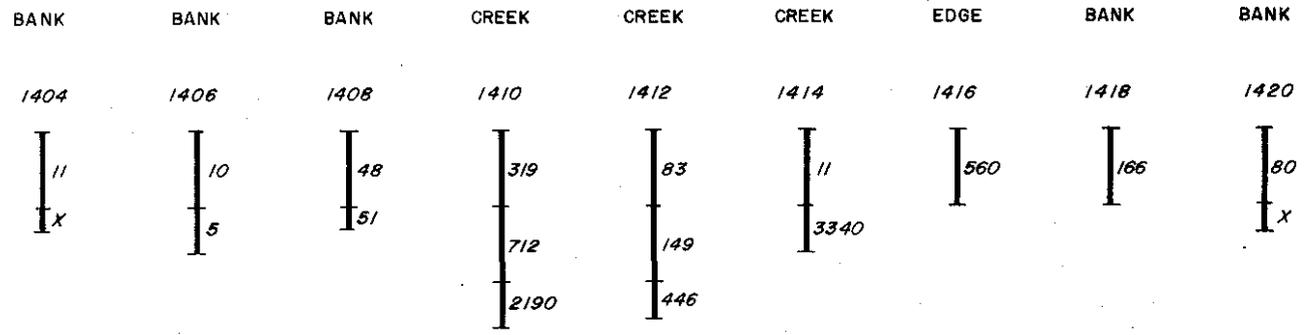
DEEP GULLY CREEK GRID
TIN STREAM GEOCHEMISTRY
- INTERPRETATION - 055

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 27/6/84	AMENDED
LEASE No EL 5/63	AREA I	SCALE 1:10 000	PLAN No TAS/2/4010

85-2411



85-2411



SOIL AUGER VALUES in ppm

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID
 TIN AUGER RESULTS FOR 1410 CREEK
 (LEVELS UNCORRECTED)

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 3/7/84	AMENDED TAS/2/4011
LEASE No EL 5/63	AREA 1	SCALE 1 : 100	PLAN No

FIGURE 1

156057

5 416 000 m N

5 415 000 m N

5 414 000 m N

SURVEY LINES FOR LOOP 2

LOOP 1

LOOP 2

SURVEY LINES FOR LOOP 1

LEGEND



Proposed UTEM survey area



Dighem responses



Dighem responses for specific follow-up

5 cm

Dolomites

PROPOSED DRILLHOLE DGC 7

PROPOSED DRILLHOLE DGC 6

PROPOSED GRID EXTENSION

COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID

RECOMMENDED FOLLOW-UP TARGETS 056

COMPILED J.A. LEVINGS	DRAWN J. HARDISTY	DATE 28/6/84	AMENDED
LEASE No EL 5/63	AREA 1	SCALE 1:10 000	PLAN No TAS/2/4012

378 000 m E

BL 5000 W

379 000 m E

380 000 m E

2250XB

2300 B

2210 A

550 m

550 m

550 m

1100

4100

4500

TL 1400 S

L 5120 N

L 5000 N

TL 2050 W

L 4100 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 2200 N

L 2100 N

L 2000 N

L 5240 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

L 2800 N

L 2700 N

L 2600 N

L 2500 N

L 2400 N

L 2300 N

L 5120 N

L 5000 N

L 3800 N

L 3700 N

L 3600 N

L 3500 N

L 3400 N

L 3300 N

L 3200 N

L 3100 N

L 3000 N

L 2900 N

5 416 000 m N

5 415 000 m N

5 414 000 m N

378 000 m E

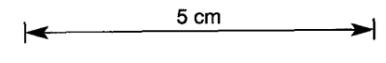
379 000 m E

380 000 m E

85-2411

LEGEND

- TERTIARY  Basalt and alluvium
- DEVONIAN  Quartz porphyry
- CAMBRIAN
 -  Basalt - magnetic
 -  Basaltic tuffs
 -  Chert
 -  Greywacke/mudstone
- PROTEROZOIC
 -  Dolomite, siltstones
 -  Siltstone, shale, minor quartzite
 -  Quartzite, minor siltstones
- Geological boundary 
- ©DGC 3 Diamond drillhole showing basement geology intersected
- CAMBRIAN ULTRAMAFICS
 -  Mylonitic ultramafic breccia
 -  Altered serpentinite

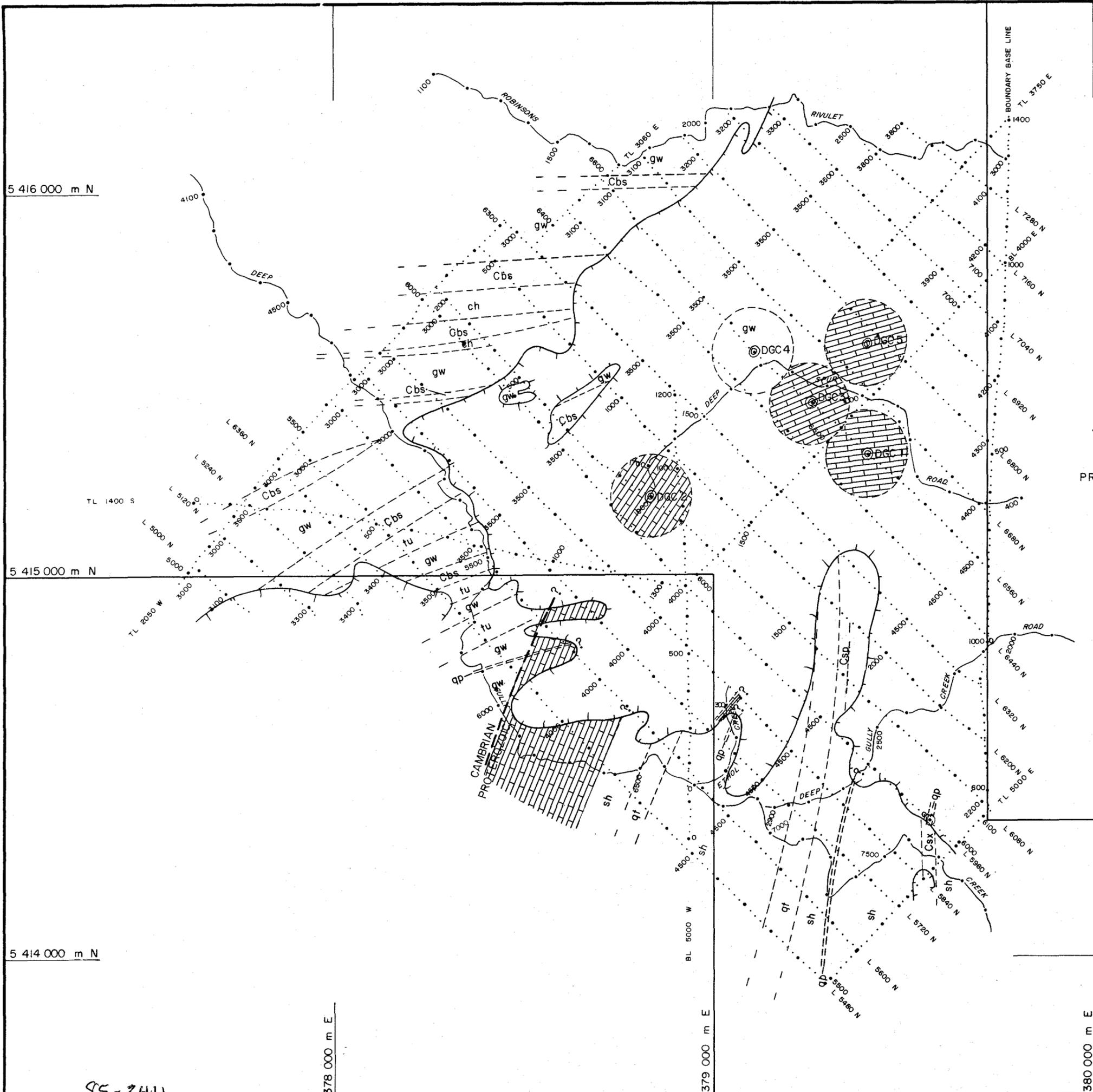


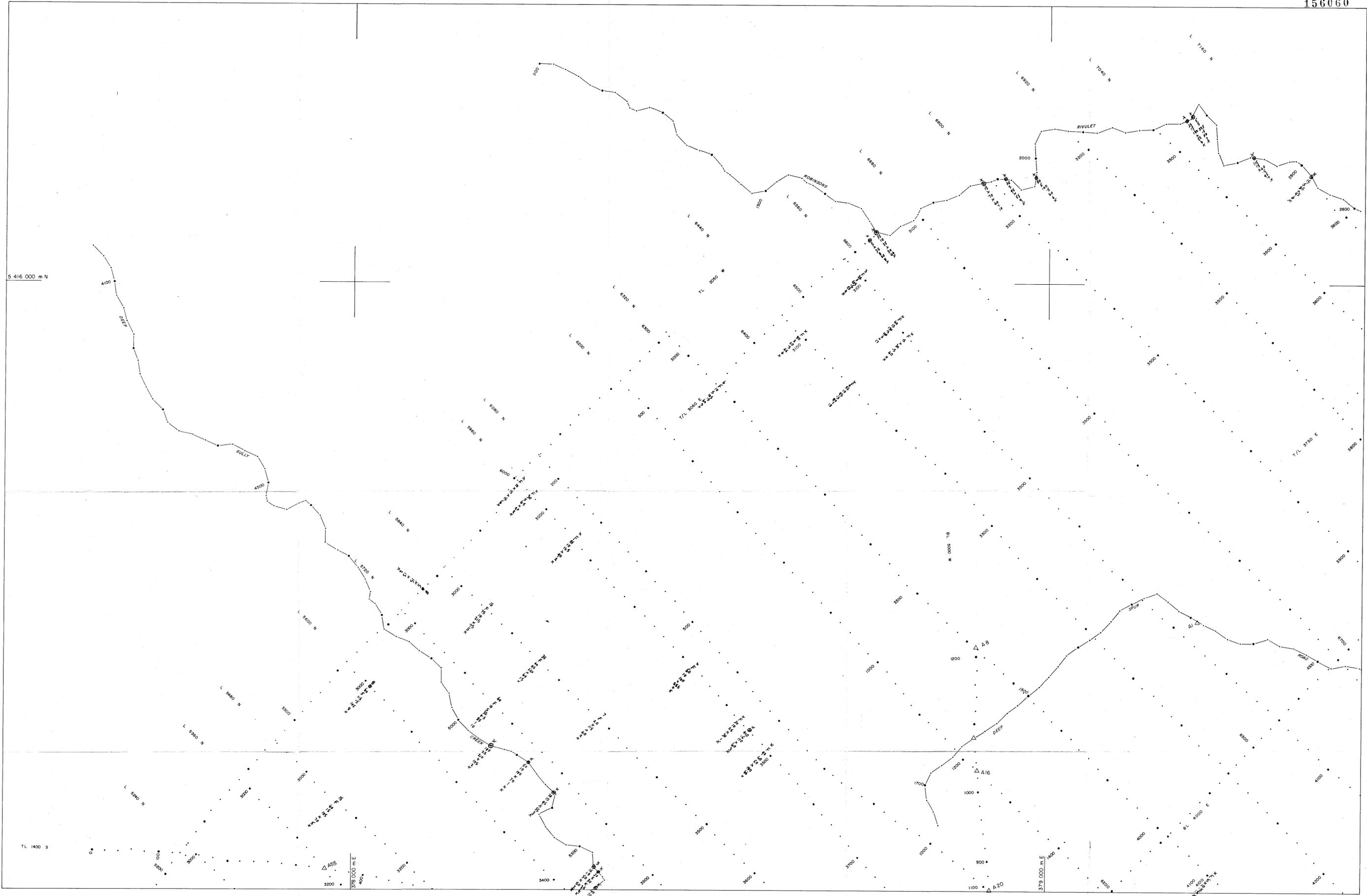
COMSTAFF PROPRIETARY LIMITED

DEEP GULLY CREEK GRID 057

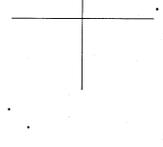
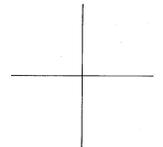
GEOLOGICAL INTERPRETATION PLAN

COMPILED J. A. LEVINGS	DRAWN J. HARDISTY	DATE 29/6/84	AMENDED
LEASE No EL 5/63	AREA 1	SCALE 1:10 000	PLAN No TAS/2/4013





5 416 000 m N

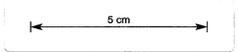


TL 1400 S

378 000 m E

379 000 m E

For legend see 3884



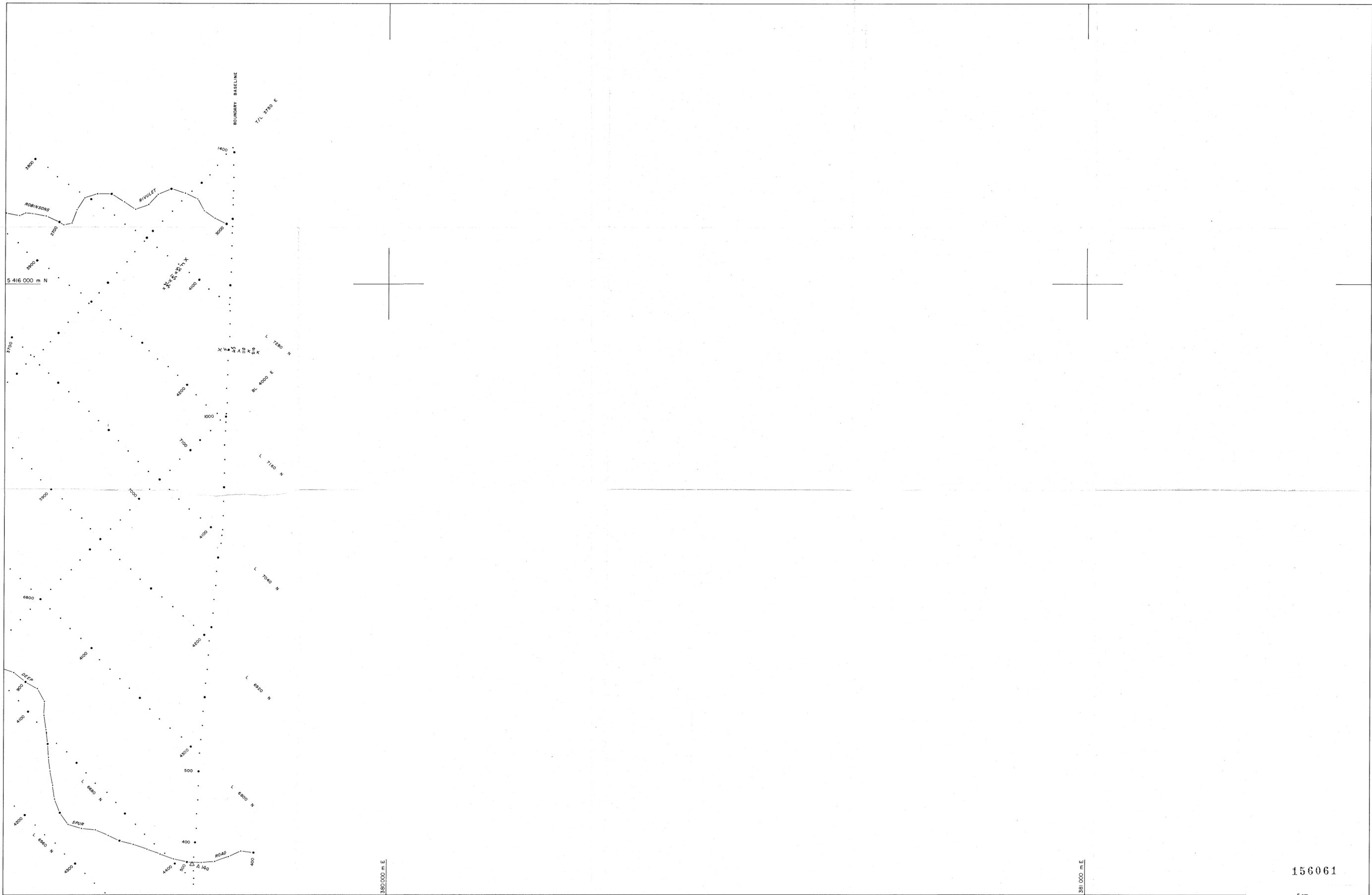
TAS/2/3887	TAS/2/3888
TAS/2/3889	TAS/2/3890



COMSTAFF PROPRIETARY LIMITED	
LEASE NO EL 5/63	COMPILED J. A. LEVINGS
AREA I	DRAWN H. PAPAS
AMENDMENTS 1 2 3 4	DATE 12/4/84
	SCALE 1 : 2500
	REF NO TAS/2/3887

PLAN OF DEEP GULLY CREEK GRID
 ROCK CHIP LOCATION & ANALYSIS
 FOR:- Cu, Pb, Zn, Ag, Ni, As, Sn, W 058

92 2111



156061

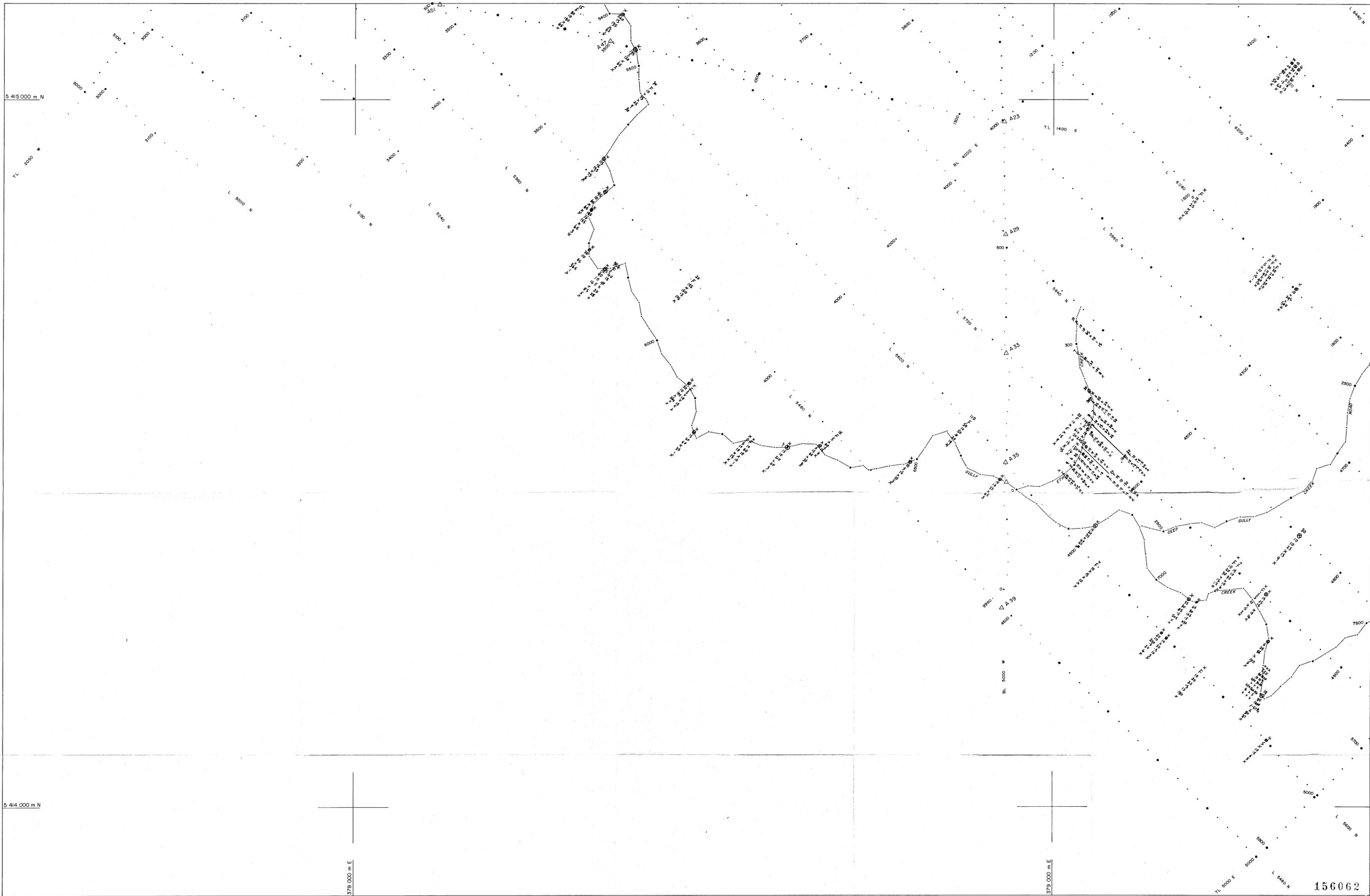
For legend see 3889

3887	3888
3889	3890



COMSTAFF PROPRIETARY LIMITED	
LEASE No EL 5/63	COMPILED J. A. LEVINGS
AREA 1	DRAWN H. PAPAS
AMENDMENTS 1 8 2 9 3 10 4 11 5 12 6 13 7 14	DATE 12/4/84
	SCALE 1 : 2500
	REF No TAS/2/ 3888

PLAN OF DEEP GULLY CREEK GRID
ROCK CHIP LOCATION & ANALYSIS
FOR:- Cu, Pb, Zn, Ag, Ni, As, Sn, W 059



5 415 000 m N

5 414 000 m N

378 000 m E

379 000 m E

156062

⊗ = Outcrop
 F = floor
 Sn
 Cu
 Pb
 Zn
 Ag
 Ni
 As
 W

all ppm except where otherwise indicated

3887	3888
3889	3890

5 cm



COMSTAFF PROPRIETARY LIMITED	
LEASE NO. EL 5/63	COMPILED J. A. LEVINGS
AREA 1	DRAWN H. PAPAS
AMENDMENTS	DATE 12/4/84
1 2 3 4	SCALE 1 : 2500
	REF. NO. TAS/2/3889
PLAN OF DEEP GULLY CREEK GRID ROCK CHIP LOCATION & ANALYSIS FOR:- Cu, Pb, Zn, Ag, Ni, As, Sn, W 060	

96-2111



For legend see 3889

3887	3888
3889	3890



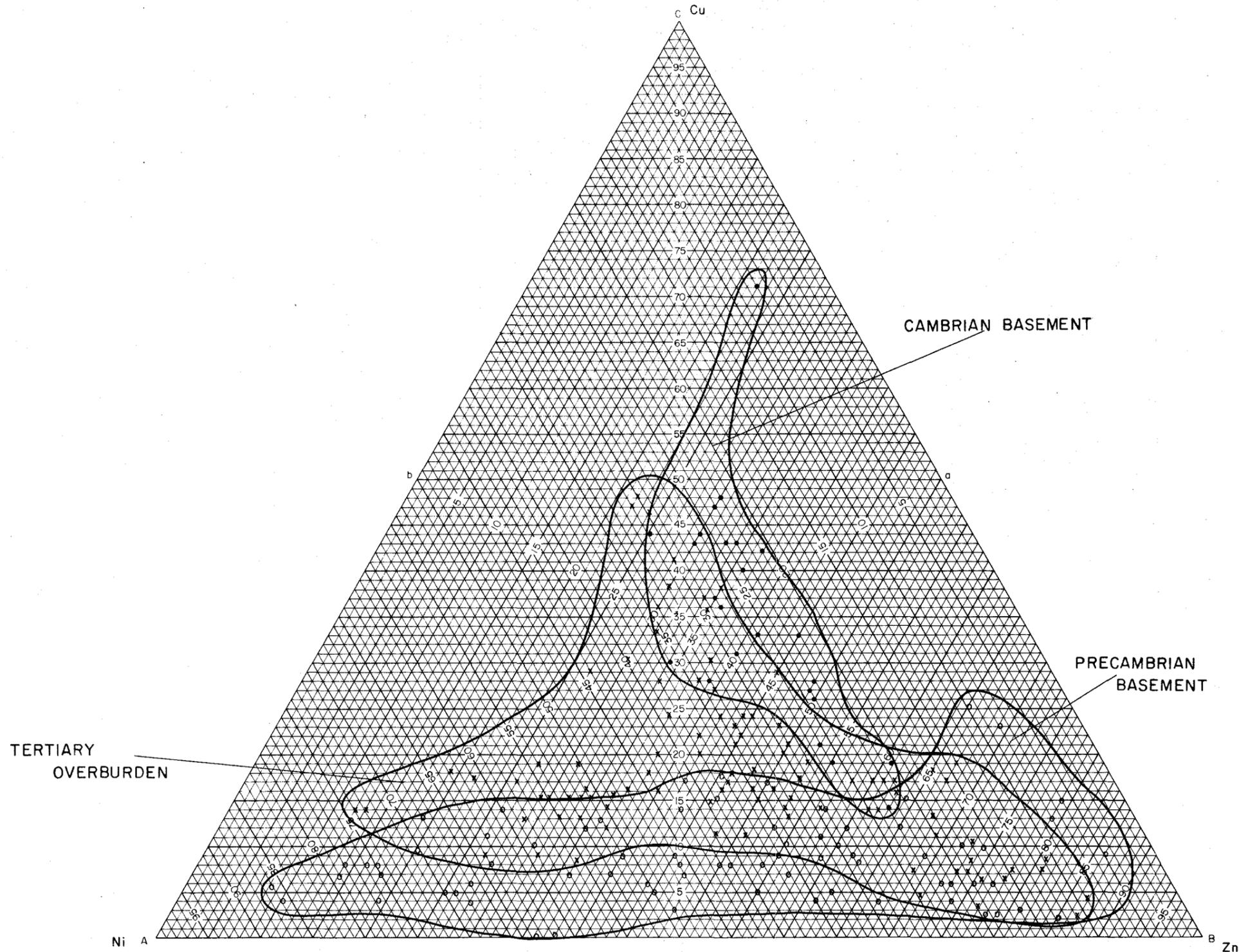
COMSTAFF PROPRIETARY LIMITED

EL 5/63 4	PLAN OF DEEP GULLY CREEK GRID ROCK CHIP LOCATION & ANALYSIS FOR:- Cu,Pb,Zn,Ag,Ni, As, Sn,W 061	DRAWN H. PAPAS DATE 12/4/84 SCALE 1:2500 SHEET TAS/2/3890
--------------	--	--

156063

5 cm

062



156064

5 cm

COMSTAFF PROPRIETARY LIMITED

TERNARY PLOT OF Cu: Ni: Zn PROPORTIONS (BY WEIGHT) FOR THREE DIFFERENT FORMATIONS INTERSECTED IN THE DEEP GULLY CREEK GRID DRILLING PROGRAMME

FIGURE 2

COMPILED	DRAWN	DATE	AMENDED
J. A. LEVINGS	J. HARDISTY	4 / 7 / 84	
LEASE No	AREA	SCALE	PLAN No
E L 5/63	I	AS SHOWN	TAS/2/4014

85-2411